SONY

EDITING CONTROL UNIT

BVE-2000

EDITING KEYBOARD
BKE-2010

EXPANDED RS-422 INTERFACE BOARD
BKE-2020

NTSC COLOR FRAMING DETECTOR
BKE-2030

PAL COLOR FRAMING DETECTOR
BKE-2031

OPERATION AND MAINTENANCE MANUAL Part 2
1st Edition
Serial No. 10001 and Higher

For the customers in the U.S.A.

WARNING

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

You are cautioned that any changes or modifications not expressly approved in this manual could void your authority to operate this equipment.

The shielded interface cable recommended in this manual must be used with this equipment in order to comply with the limits for a digital device pursuant to Subpart B of Part 15 of FCC rules.

For the customers in Canada
This apparatus complies with the Class A limits for radio noise emissions set out in Radio Interference Regulations.

Pour les utilisateurs au Canada
Cet appareil est conforme aux normes Classe A pour bruits radioélectriques, spécifiés dans le Règlement sur le brouillage radioélectrique.

Bescheinigung des Herstellers
Hiermit wird bescheinigt, daß die Schnitt-Steuereinheit BVE-2000 in Übereinstimmung mit den Bestimmungen der BMPT-Amtsblatt Vfg 243/1991 und Vfg 46/1992 funkenstört ist. Der vorschriftsmäßige Betrieb mancher Geräte (z.B.Meßsender) kann allerdings gewissen Einschränkungen unterliegen. Beachten Sie deshalb die Hinweise in der Bedienungsanleitung. Dem Bundesamt für Zulassungen in der Telekommunikation wurde das inverkehrbringen dieses Gerätes angezeigt und die Berechtigung zur Überprüfung der Serie auf Einhaltung der Bestimmungen eingeräumt.

Sony Deutschland GmbH
Hugo Eckener Str. 20
D-5000 Köln 30

Hinweis
Gemäß der Amtsblätter des BMPT Nm. 61/1991 und 6/1992 wird der Betreiber darauf aufmerksam gemacht, daß die von ihm mit diesem Gerät zusammengestellte Anlage auch den technischen Bestimmungen dieser Amtsblätter genügen muß.

SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety checks before releasing the set to the customer:

Check the metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 3.5mA. Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 5.25V so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 20V AC range are suitable. (See Fig. A)

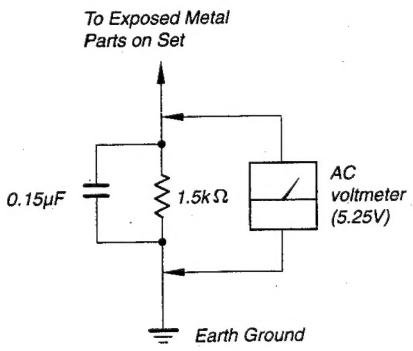

Fig. A. Using an AC voltmeter to check AC leakage.

このマニュアルについて

本書の目的

本書は、エディティングコントロールユニットBVE-2000とその別売りアクセサリのBKEシリーズのオペレーション・アンド・メンテナンスマニュアルパート2です。本書では、サービスエンジニアの方々にご使用していただくことを想定し、本機の部品レベルまでのサービスを前提とした情報（調整要項、回路図、マウント図、詳細パーツリスト等）を記載しています。

構成

本書全体の構成を把握していただくために、全章の概略を以下に説明します。

オペレーション・アンド・メンテナンスマニュアルパート2

第1章／SEC. 1　電気調整要項／ELECTRICAL ALIGNMENT

プリント基板内の部品交換をした場合などで、基板を調整する必要が生じた場合の調整方法を説明しています。

SEC. 2　SCHEMATIC DIAGRAMS

全プリント基板の回路図を概ね、スロットの順番で掲載しています。マザー基板とフレーム回路図は、本章の最後の部分にあります。

SEC. 3　BOARD LAYOUTS

全プリント基板のパターンとシンボル図を、回路図と概ね同じ順で掲載しています。

SEC. 4　SEMICONDUCTOR PIN ASSIGNMENTS

使用半導体の外形およびICについては概略の機能ブロックや、ピン名称を掲載しています。

SEC. 5　SPARE PARTS & OPTIONAL FIXTURES

使用部品のうち、サービス対象に指定されている部品や、必要な工具類などを掲載しています。

オペレーション・アンド・メンテナンスマニュアルパート1

第1章　取扱い操作／SEC. 1　OPERATION
第2章　設置／SEC. 2　INSTALLATION
第3章　サービスインフォメーション／SEC. 3　SERVICE INFORMATION
第4章　自己診断／SEC. 4　DIAGNOSTIC
SEC. 5　BLOCK DIAGRAMS & FRAME WIRING
SEC. 6　SPARE PARTS AND FIXTURES FOR CUSTOMERS

関連マニュアル

本機にはこの「オペレーション・アンド・メンテナンスマニュアルパート2」の他に下記のマニュアルが用意されています。

- ユーザーガイド（本機に付属しています。）
  本機を実際に運用および操作するのに必要なマニュアルです。
- オペレーション・アンド・メンテナンスマニュアルパート1（本機に付属しています。）
  本機の納入設定時に必要な項目、点検および保守に関する情報、主なブロックおよび基板交換によるサービスを前提とした情報を記載したマニュアルです。

Introducing This Manual

Purpose of this manual

This manual is the operation and maintenance manual Part 2 of the editing control unit BVE-2000 and its optional BKE series accessories.
Intended for service engineers, this manual contains information (alignments, schematic diagrams, board layouts, detailed parts list, etc.) required for servicing the parts of the unit.

Construction

To help you grasp the construction of this manual, summaries of all sections are given below.

Operation And Maintenance Manual Part 2

Section 1. ELECTRICAL ALIGNMENTS

Describes the procedures for adjusting the printed circuit board which are to be carried out when its parts have been replaced, etc.

Section 2. SCHEMATIC DIAGRAMS

Contains the schematic diagrams of all printed circuit boards according to the order of the slots. The schematic diagrams of the mother board and frame are at the end of this section.

Section 3. BOARD LAYOUTS

Provides the printed circuit pattern and their printed symbols of all circuit boards in the same order as the schematic diagrams.

Section 4. SEMICONDUCTOR PIN ASSIGNMENTS

Gives the external view of the used semiconductor, the functional blocks and pin names of the ICs.

Section 5. SPARE PARTS & OPTIONAL FIXTURES

Lists parts which can be serviced, required tools, etc.

Operation and Maintenance Manual Part 1

Section 1. OPERATION

Section 2. INSTALLATION

Section 3. SERVICE INFORMATION

Section 4. DIAGNOSIS

Section 5. BLOCK DIAGRAMS AND FRAME WIRING

Section 6. SPARE PARTS AND FIXTURES FOR CUSTOMERS

Related Manuals

In addition to this Operation and Maintenance Manual Part 2, the following manuals are also available.

- User's Guide (Provided with BVE-2000)
  Manual required for operating the unit.
- Operation and Maintenance Manual Part 1 (Provided with BVE-2000)
  This manual gives information on how to set the unit up, inspect and maintain it, and service (mainly replacements of main blocks and boards).

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↓

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↓

1-3-6. DCレベル調整 (BKE-2031)

↓

1-3-7. H-PHASE調整 (BKE-2031)

↓

1-3-8. SC位相プリセットキャリブレーション調整 (BKE-2031)

↓

1-3-9. SC位相マニュアルキャリブレーション調整 (BKE-2031)

↓

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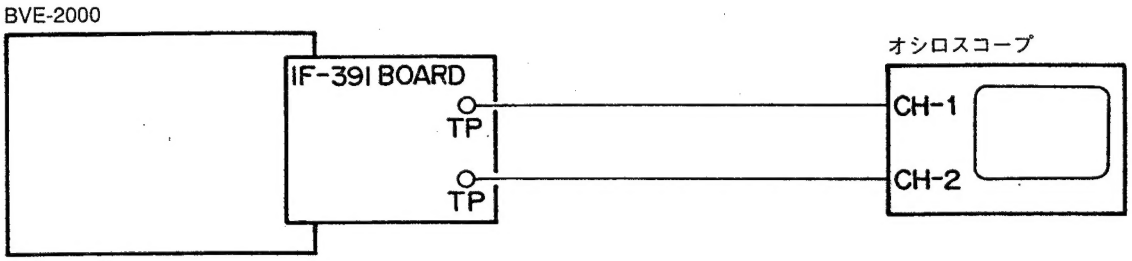
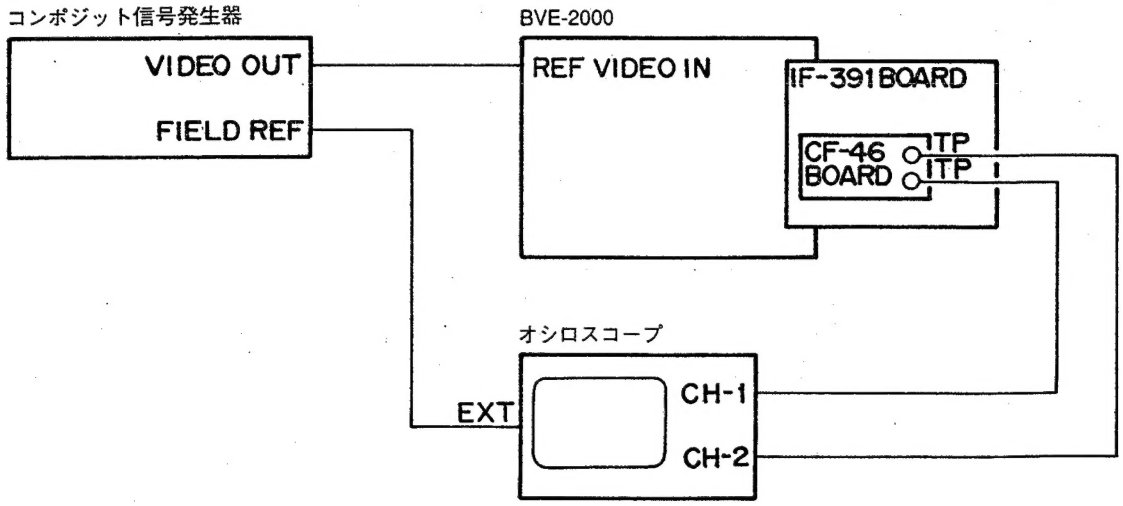
1-2. 調整前の準備

1-2-1. 機器の接続

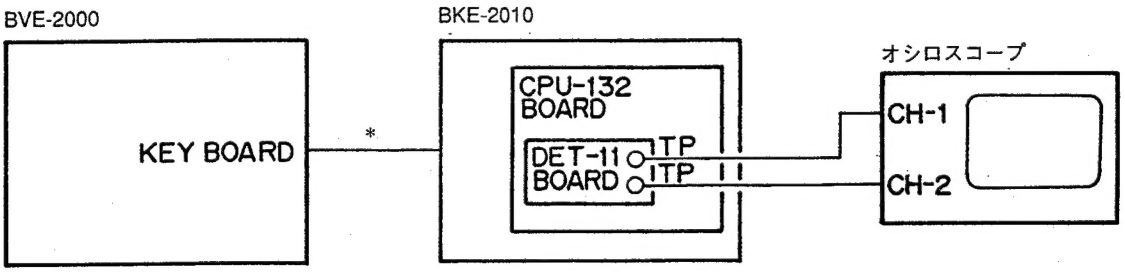
接続-1 : BVE-2000調整時



接続-2 : BKE-2030/BKE-2031調整時



接続-3 : BKE-2010調整時



*: BKE-2010の付属ケーブル10 m (1-559-650-11)

1-2-2. 治工具/測定器

1. コンポジット信号発生器
   相当品 : 1410/ソニーテクトロニクス (For NTSC)
   1411/ソニーテクトロニクス (For PAL)
   1431/ソニーテクトロニクス (For SECAM)

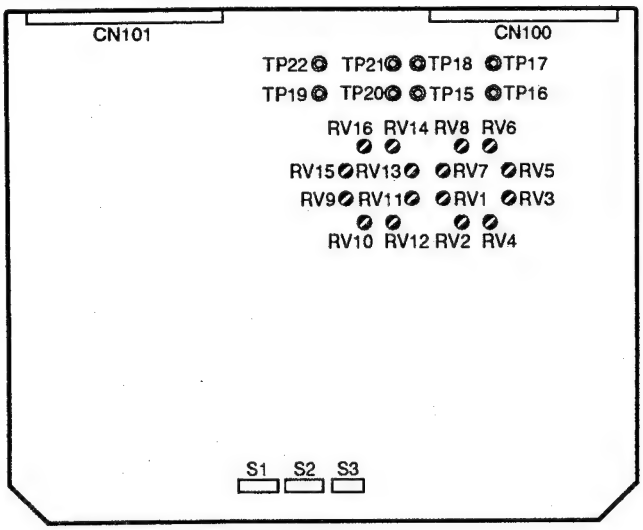
2. オシロスコープ
   相当品 : 2445または2465/ソニーテクトロニクス

3. 延長基板 (EX-383)
   ソニー部品番号 : J-6187-390-A

1-2-3. 調整ボリューム配置図

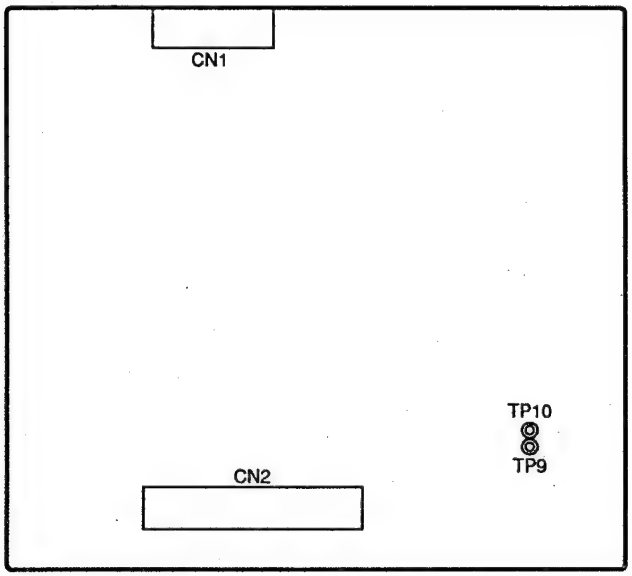
BVE-2000

IF-391 BOARD (A SIDE)



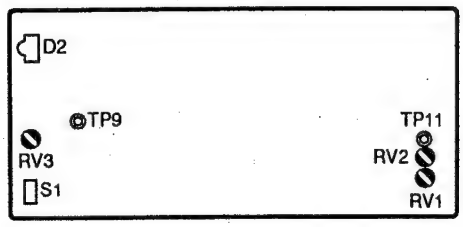
BKE-2010

CPU-132 (A SIDE)



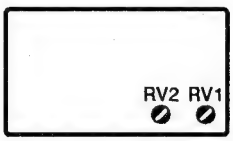
BKE-2030

CF-46 BOARD (A SIDE)



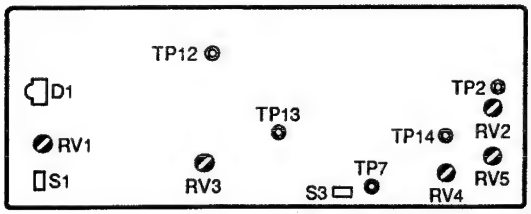
BKE-2010

DET-11 BOARD (A SIDE)



BKE-2031

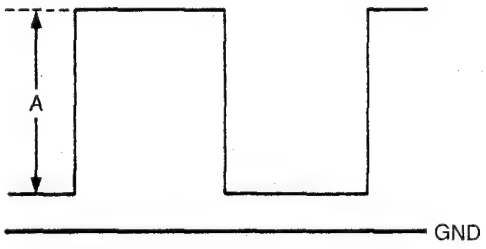
CF-47 BOARD (A SIDE)



1-3. BVE-2000の調整

1-3-1. オーディオアナログコントロール振幅電圧の調整

<table>
<tr><th>調整時の状態</th><th>規格</th><th>調整箇所</th></tr>
<tr><td colspan="3">STEP-1
• 接続 : 1-2-1項　接続-1
• 延長基板 : EX-383基板にてIF-391基板を引き出す。
• スイッチの設定 : S1/IF-391 (D15) = ON
S2/IF-391 (E15) = ON
S3-1, 2, 3/IF-391 (F15) = ON
S3-4, 5/IF-391 (F15) = OFF</td></tr>
<tr><td rowspan="8">STEP-2

• オシロスコープ
CH-1 :　1 mS/DIV
1 V/DIV
TRIG :　CH-1</td><td rowspan="8">テストポイント
 

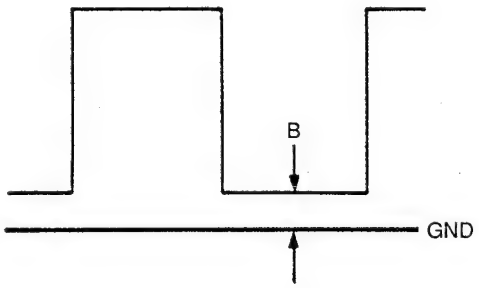
A = 5.0 ± 0.1 V dc

• 上記の規格になるように、各TPを確認しながら、RV1, 3, 5, 7, 9, 11, 13, 15を調整する。</td><td>VCA-1A 調整
⊘ RV1/IF-391 (J3)
TP15/IF-391 (J1)</td></tr>
<tr><td>VCA-1B 調整
⊘ RV3/IF-391 (K3)
TP16/IF-391 (J1)</td></tr>
<tr><td>VCA-1C 調整
⊘ RV5/IF-391 (K3)
TP17/IF-391 (J1)</td></tr>
<tr><td>VCA-1D 調整
⊘ RV7/IF-391 (J3)
TP18/IF-391 (J1)</td></tr>
<tr><td>VCA-2A 調整
⊘ RV9/IF-391 (H3)
TP19/IF-391 (G1)</td></tr>
<tr><td>VCA-2B 調整
⊘ RV11/IF-391 (J3)
TP20/IF-391 (H1)</td></tr>
<tr><td>VCA-2C 調整
⊘ RV13/IF-391 (J3)
TP21/IF-391 (H1)</td></tr>
<tr><td>VCA-2D 調整
⊘ RV15/IF-391 (H3)
TP22/IF-391 (G1)</td></tr>
<tr><td colspan="3">STEP-3
• 調整終了後は必ず、IF-391基板のS3-4, 5の設定をONにもどす。</td></tr>
</table>

1-3-2. オーディオアナログコントロール OFF SET 電圧の調整

<table>
<tr><th>調整時の状態</th><th>規格</th><th>調整箇所</th></tr>
<tr><td colspan="3">STEP-1
• 接続 : 1-2-1項　接続-1
• 延長基板 : EX-383基板にてIF-391基板を引き出す。
• スイッチの設定 : S1/IF-391 (D15) = ON
S2/IF-391 (E15) = ON
S3-1, 2, 3/IF-391 (F15) = ON
S3-4, 5/IF-391 (F15) = OFF</td></tr>
<tr><td rowspan="8">STEP-2

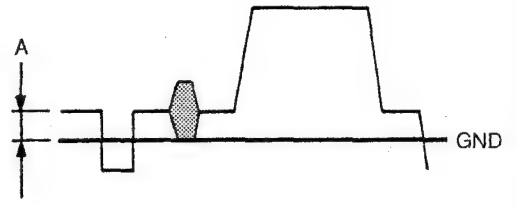
• オシロスコープ
CH-1 :　1 mS/DIV
10 mV/DIV
TRIG :　CH-1</td><td rowspan="8">テストポイント

B = 0.0 ± 0.02 V dc

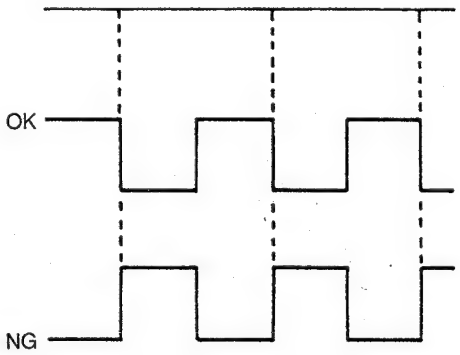
• 上記の規格になるように、各TPを確認しながら、RV2, 4, 6, 8, 10, 12, 14, 16を調整する。</td><td>VCA-1A 調整
⊘ RV2/IF-391 (J5)
TP15/IF-391 (J1)</td></tr>
<tr><td>VCA-1B 調整
⊘ RV4/IF-391 (K5)
TP16/IF-391 (J1)</td></tr>
<tr><td>VCA-1C 調整
⊘ RV6/IF-391 (K2)
TP17/IF-391 (J1)</td></tr>
<tr><td>VCA-1D 調整
⊘ RV8/IF-391 (J2)
TP18/IF-391 (J1)</td></tr>
<tr><td>VCA-2A 調整
⊘ RV10/IF-391 (H5)
TP19/IF-391 (G1)</td></tr>
<tr><td>VCA-2B 調整
⊘ RV12/IF-391 (H5)
TP20/IF-391 (H1)</td></tr>
<tr><td>VCA-2C 調整
⊘ RV14/IF-391 (H2)
TP21/IF-391 (H1)</td></tr>
<tr><td>VCA-2D 調整
⊘ RV16/IF-391 (H2)
TP22/IF-391 (G1)</td></tr>
<tr><td colspan="3">STEP-3
• 調整終了後は必ず、IF-391基板のS3-4, 5の設定をONにもどす。</td></tr>
</table>

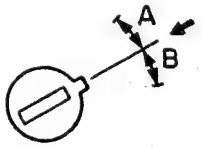
1-3-3. DC レベル調整 (BKE-2030)

調整時の状態	規格	調整箇所
STEP-1 • 接続 : 1-2-1項　接続-2 • 延長基板 : EX-383基板にてCF-46基板を載せたIF-391基板を引き出す。		
STEP-2 • 入力信号 REF VIDEO IN : Black Burst/Color Bar/Flat Field • スイッチの設定 MANUAL/PRESET Switch S1/CF-46 (E8) : PRESET • ジャンパープラグの設定 COR1, 3, 5, 7 : オープン COR2, 4, 6, 8 : ショート • オシロスコープ CH-1 : 10 μ S/DIV 0.1 V/DIV TRIG : CH-1	TP11/CF-46 (C1)  A = 0 ± 0.05 V	◐ RV1/CF-46 (E1)

1-3-4. SC位相プリセットキャリブレーション調整 (BKE-2030)

<table>
<tr><th>調整時の状態</th><th>規格</th><th>調整箇所</th></tr>
<tr><td colspan="3">STEP-1
• 接続 : 1-2-1項　接続-2
• 延長基板 : EX-383基板にてCF-46基板を載せたIF-391基板を引き出す。</td></tr>
<tr><td>STEP-2
• 入力信号
REF VIDEO IN :
Black Burst/Color Bar/Flat Field
• スイッチの設定
MANUAL/PRESET Switch
S1/CF-46 (E8) : PRESET
• ジャンパープラグの設定
COR1, 3, 5, 7 : オープン
COR2, 4, 6, 8 : ショート

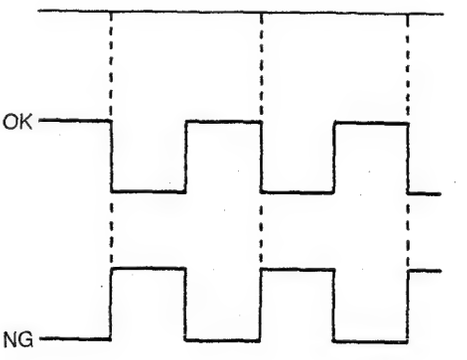
• オシロスコープ
CH-1 : 20 mS/DIV
2 V/DIV
TRIG : CH-1</td><td>FIELD REF (テスト信号発生器出力)
TP9/CF-46 (C8)
 

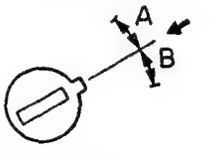
• 上記位相関係を保ちながら、RV2/CF-46 (D1)を回して、LED D2/CF-46 (B8) が点灯する範囲を捜し、RV2をその中央にセットする。</td><td>● RV2/CF-46 (D1)
 

• 矢印の箇所にセットする。
• A～Bの範囲でD2/CF-46 (B8) が点灯する。</td></tr>
</table>

1-3-5. SC位相マニュアルキャリブレーション (BKE-2030)

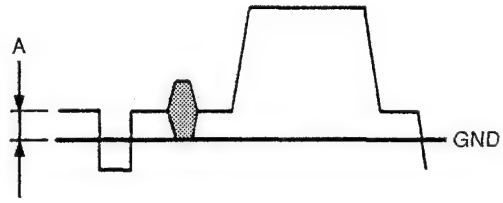
<table>
<tr><th>調整時の状態</th><th>規格</th><th>調整箇所</th></tr>
<tr><td colspan="3">STEP-1
• 接続 : 1-2-1項　接続-2
• 延長基板 : EX-383基板にてCF-46基板を載せたIF-391基板を引き出す。</td></tr>
<tr><td>STEP-2
• 入力信号
REF VIDEO IN :
Black Burst/Color Bar/Flat Field
• スイッチの設定
MANUAL/PRESET Switch
S1/CF-46 (E8) MANUAL
• ジャンパープラグの設定
COR1, 3, 5, 7 : オープン
COR2, 4, 6, 8 : ショート

• オシロスコープ
CH-1 : 20 mS/DIV
2 V/DIV
TRIG : CH-1</td><td>FIELD REF (テスト信号発生器出力)
TP9/CF-46 (C8)
 

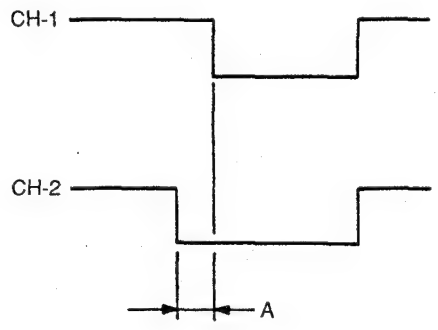
• 上記位相関係を保ちながら、RV3/CF-46 (C8) を回して、LED D2/CF-46 (B8) が点灯する範囲を捜し、RV3をその中央にセットする。</td><td>● RV3/CF-46 (C8)
 

• 矢印の箇所にセットする。
• A～Bの範囲でD2/CF-46 (B8)が点灯する。</td></tr>
</table>

1-3-6. DC レベル調整 (BKE-2031)

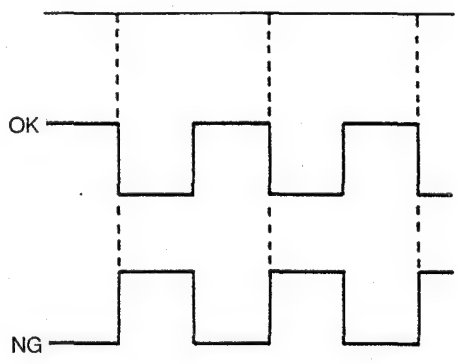
調整時の状態	規格	調整箇所
STEP-1 • 接続 : 1-2-1項　接続-2 • 延長基板 : EX-383基板にてCF-47基板を載せたIF-391基板を引き出す。		
STEP-2 • 入力信号 REF VIDEO IN : Black Burst/Color Bar/Flat Field • スイッチの設定 MANUAL/PRESET Switch S1/CF-47 (D10) : PRESET • オシロスコープ CH-1 : 10 μS/DIV 0.1 V/DIV TRIG : CH-1	TP2/CF-47 (B1)  A = 0 ± 0.05 V	◐ RV2/CF-47 (B1)

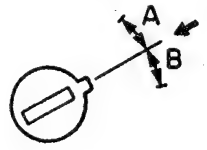
1-3-7. H-PHASE 調整 (BKE-2031)

調整時の状態	規格	調整箇所
STEP-1 • 接続 : 1-2-1項　接続-2 • 延長基板 : EX-383基板にてCF-47基板を載せたIF-391基板を引き出す。		
STEP-2 • 入力信号 REF VIDEO IN : Black Burst/Color Bars/Flat Field • スイッチの設定 MANUAL/PRESET Switch S1/CF-47 (D10) : PRESET PAL/SECAM Switch S3/CF-47 (D4) : PAL • オシロスコープ CH-1 : 1 μS/DIV 2 V/DIV CH-2 : 1 μS/DIV 0.2 V/DIV TRIG : CH-1	CH-1 : TP14/CF-47 (B2) CH-2 : TP13/CF-47 (C6)  A = 0 ± 0.1 μsec	◐ RV3/CF-47 (D8)

1-3-8. SC位相プリセットキャリブレーション調整 (BKE-2031)

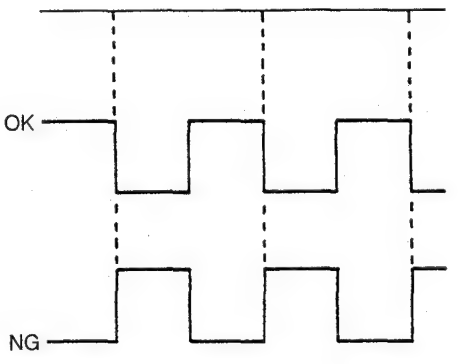
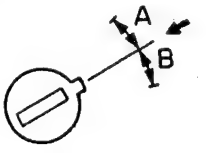
<table>
<tr><th>調整時の状態</th><th>規格</th><th>調整箇所</th></tr>
<tr><td colspan="3">STEP-1
• 接続 : 1-2-1項　接続-2
• 延長基板 : EX-383基板にてCF-47基板を載せたIF-391基板を引き出す。</td></tr>
<tr><td>STEP-2
• 入力信号
REF VIDEO IN :
Black Burst/Color Bar/Flat Field
• スイッチの設定
MANUAL/PRESET Switch
S1/CF-47 (D10) : PRESET
PAL/SECAM Switch
S3/CF-47 (D4) : PAL

• オシロスコープ
CH-1 : 20 mS/DIV
2 V/DIV
TRIG : CH-1</td><td>FIELD REF (テスト信号発生器出力)
TP12/CF-47 (B7)
 

• 上記位相関係を保ちながら、RV5/CF-47 (C1)を回して、LED D1/CF-47 (B10) が点灯する範囲を捜し、RV5をその中央にセットする。</td><td>RV5/CF-47 (C1)
 

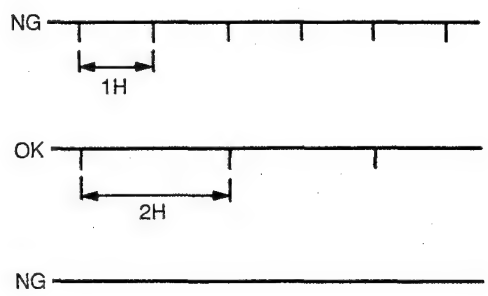
• 矢印の箇所にセットする。
• A～Bの範囲でD1/CF-47 (B10) が点灯する。</td></tr>
</table>

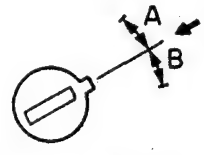
1-3-9. SC位相マニュアルキャリブレーション調整 (BKE-2031)

調整時の状態	規格	調整箇所
STEP-1 • 接続: 1-2-1項　接続-2 • 延長基板: EX-383基板にてCF-47基板を載せたIF-391基板を引き出す。		
STEP-2 • 入力信号 REF VIDEO IN : Black Burst/Color Bar/Flat Field • スイッチの設定 MANUAL/PRESET Switch S1/CF-47 (D10) : MANUAL PAL/SECAM Switch S3/CF-47 (D4) : PAL • オシロスコープ CH-1 : 20 mS/DIV 2 V/DIV TRIG : CH-1	FIELD REF (テスト信号発生器出力) TP12/CF-47 (B7)  • 上記位相関係を保ちながら、RV1/CF-47 (C10)を回して、LED D1/CF-47 (C10) が点灯する範囲を捜し、RV1をその中央にセットする。	● RV1/CF-47 (C10)  • 矢印の箇所にセットする。 • A～Bの範囲でD1/CF-47 (C10)が点灯する。

1-3-10. SECAMキャリブレーション調整 (BKE-2031)

<table>
<tr><th>調整時の状態</th><th>規格</th><th>調整箇所</th></tr>
<tr><td colspan="3">STEP-1
• 接続 : 1-2-1項　接続-2
• 延長基板 : EX-383基板にてCF-47基板を載せたIF-391基板を引き出す。</td></tr>
<tr><td>STEP-2
• 入力信号
REF VIDEO IN : VIDEO 信号
• スイッチの設定
MANUAL/PRESET Switch
S1/CF-47 (D10) : PRESET
PAL/SECAM Switch
S3/CF-47 (D4) : SECAM

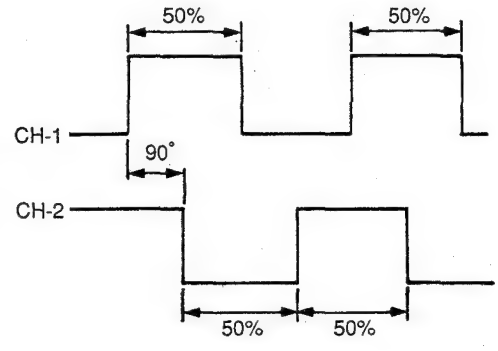
• オシロスコープ
CH-1 : 20 μS/DIV
1 V/DIV
TRIG : CH-1</td><td>TP7/CF-47 (D3)
 

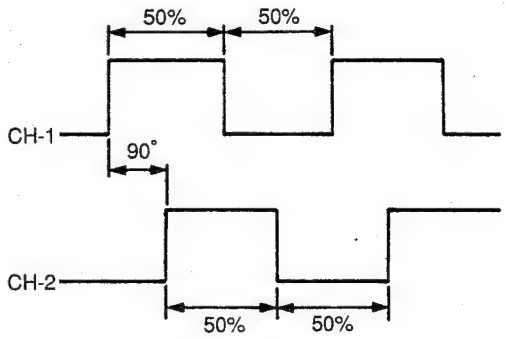
• CF-47基板TP7の信号を測定し、上記に示す正しい信号(2H周期)が検出できる範囲をRV4を回しながら探し、RV4をその中央にセットする。</td><td>RV4/CF-47 (D1)
 

• 矢印の箇所にセットする。
• A～Bが検出範囲。</td></tr>
</table>

1-4. BKE-2010の調整

1-4-1. サーチダイアルパルスアンプ調整

調整時の状態	規格	調整箇所
STEP-1 • 接続 : 1-2-1項　接続-3		
STEP-2 • JOGモードにし、サーチダイアルを回しながら、DET-11基板のRV1を左右に回す。 RV1を左に回して行ったときにCPU-132基板のTP10にパルスが現れ始める点と、右に回して行ったときに パルスが現われ始める点との中央にRV1をセットする。		
STEP-3 • JOGモードにし、STEP-2と同様にして、CPU-132基板のTP9に対してDET-11基板のRV2を調整する。		
STEP-4 • オシロスコープ CH-1 : 2 mS/DIV 2 V/DIV CH-2 : 2 mS/DIV 2 V/DIV TRIG : CH-1	• サーチダイアルをFWD方向に回す。 • TP10とTP9の位相を確認する。 CH-1 : TP10/CPU-132 (G6) CH-2 : TP9/CPU-132 (G6)  注意 : デューティ比 50 % CH-1とCH-2の位相差を90° にする。	⊘ RV1/DET-11 TP10/CPU-132 (G6) ⊘ RV2/DET-11 TP9/CPU-132 (G6)

調整時の状態	規格	調整箇所
STEP-5 • オシロスコープ CH-1 : 2 mS/DIV 2 V/DIV CH-2 : 2 mS/DIV 2 V/DIV TRIG : CH-1	• サーチダイアルをREV方向に回す。 • TP10とTP9の位相を確認する。 CH-1 : TP10/CPU-132 (G6) CH-2 : TP9/CPU-132 (G6)  注意 : デューティ比 50 % CH-1とCH-2の位相差を90° にする。	⊘ RV1/DET-11 TP10/CPU-132 (G6) ⊘ RV2/DET-11 TP9/CPU-132 (G6)

SECTION 1
ELECTRICAL ADJUSTMENTS

1-1. ADJUSTMENT SEQUENCE

BVE-2000 Adjustments

1-2. PREPARATION BEFORE ADJUSTMENTS

↓

1-3-1. Audio Analog Control Amplitude Voltage Adjustment

↓

1-3-2. Audio Analog Control Offset Voltage Adjustment

↓

1-3-3. DC Level Adjustment (BKE-2030)

↓

1-3-4. SC Phase Preset Calibration Adjustment (BKE-2030)

↓

1-3-5. SC Phase Manual Calibration Adjustment (BKE-2030)

↓

1-3-6. DC Level Adjustment (BKE-2031)

↓

1-3-7. H-Phase Adjustment (BKE-2031)

↓

1-3-8. SC Phase Preset Calibration Adjustment (BKE-2031)

↓

1-3-9. SC Phase Manual Calibration Adjustment (BKE-2031)

↓

1-3-10. Secam Calibration Adjustment (BKE-2031)

BKE-2010 Adjustments

1-2. PREPARATION BEFORE ADJUSTMENTS

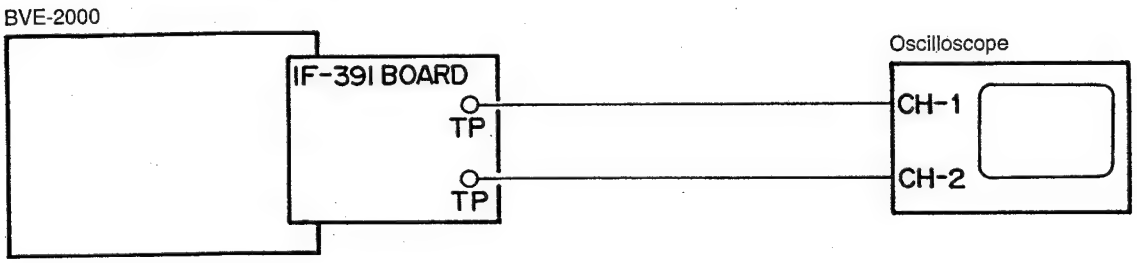
↓

1-4-1. Search Dial Pulse Amplifier Adjustment

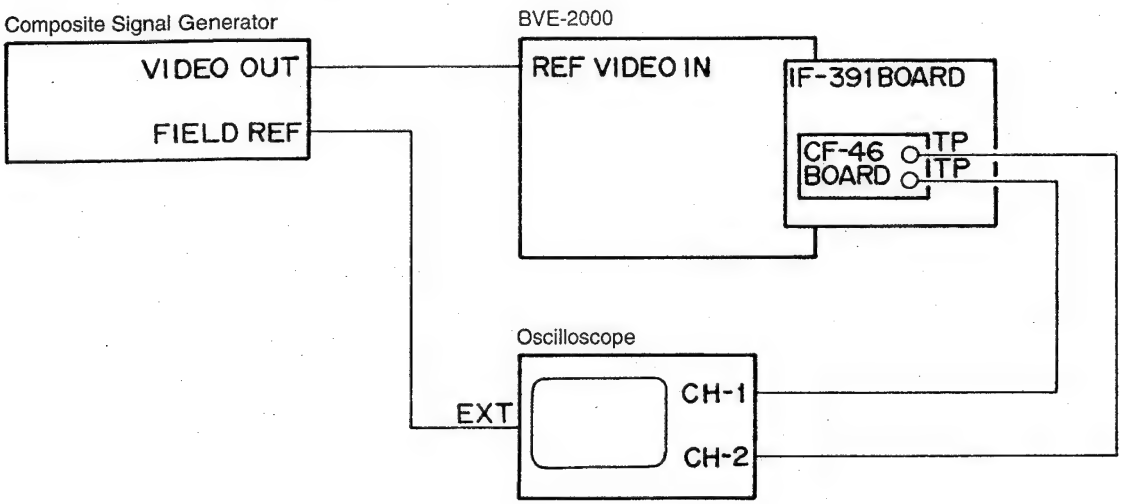
1-2. ADJUSTMENT PREPARATION

1-2-1. Connection

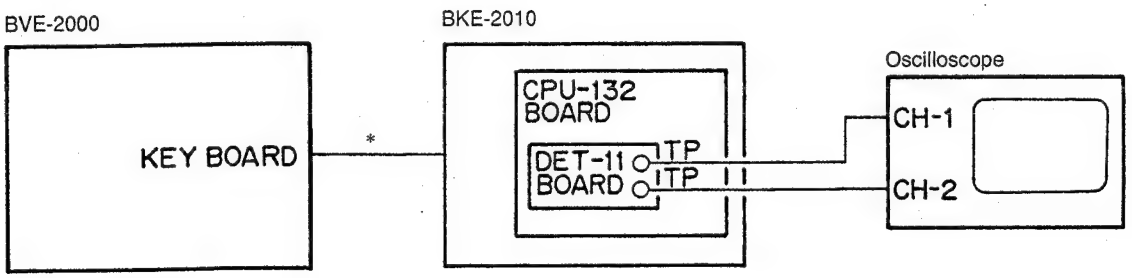
Connection-1 : When adjusting BVE-2000



Connection-2 : When adjusting BKE-2030/BKE-2031



Connection-3 : When adjusting BKE-2010



*: Cable (10 m) supplied with BKE-2010 (1-559-650-11)

1-2-2. Tools/Measuring Equipments

1. Composite Signal Generator
   Equivalent : 1410/Sony Tektronix (For NTSC)
   1411/Sony Tektronix (For PAL)
   1431/Sony Tektronix (For SECAM)

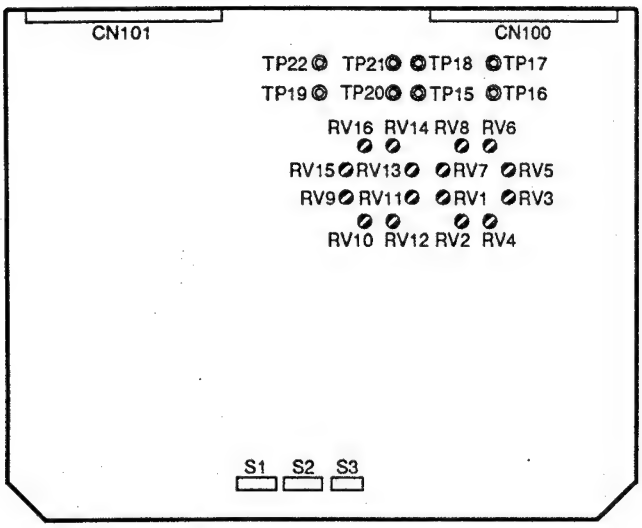
2. Oscilloscope
   Equivalent : 2445 or 2465/Sony Tektronix

3. Extension Board (EX-383)
   Sony Part No. : J-6187-390-A

1-2-3. Layout of Adjustment Controls

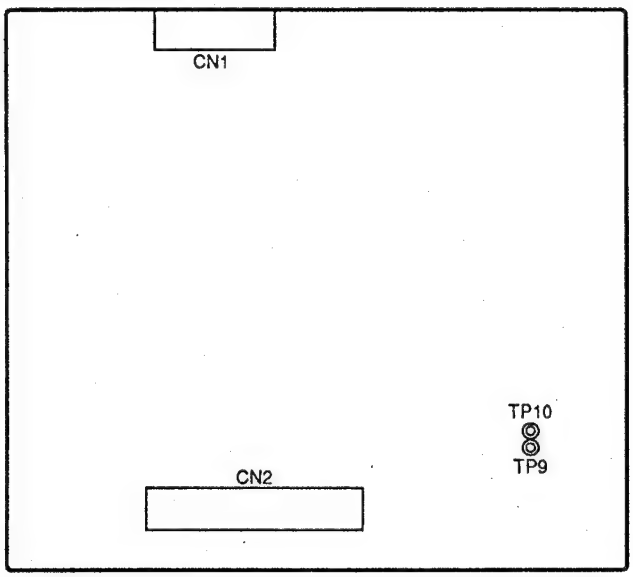
BVE-2000

IF-391 BOARD (A SIDE)



BKE-2010

CPU-132 (A SIDE)

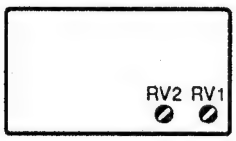


BKE-2030

CF-46 BOARD (A SIDE)

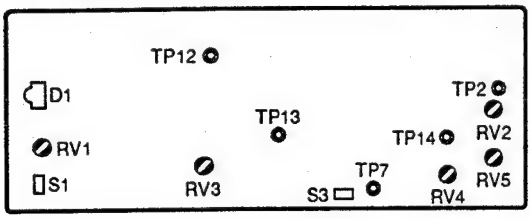
BKE-2010

DET-11 BOARD (A SIDE)



BKE-2031

CF-47 BOARD (A SIDE)

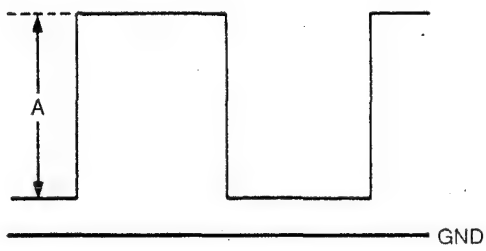


1-3. BVE-2000 ADJUSTMENTS

1-3-1. Audio Analog Control Amplitude Voltage Adjustment

<table>
<tr><th>Adjustment Conditions</th><th>Specifications</th><th>Adjusting Points</th></tr>
<tr><td colspan="3">STEP-1
• Connection : Section 1-2-1 Connection-1
• Extension board : Extend the IF-391 board with the EX-383 board.
• Switch settings : S1/IF-391 (D15)=ON
S2/IF-391 (E15) = ON
S3-1, 2, 3/IF-391 (F15) = ON
S3-4, 5/IF-391 (F15) = OFF</td></tr>
<tr><td rowspan="8">STEP-2

• Oscilloscope
CH-1 : 1mS/DIV
1V/DIV
TRIG : CH-1</td><td rowspan="8">Test Point

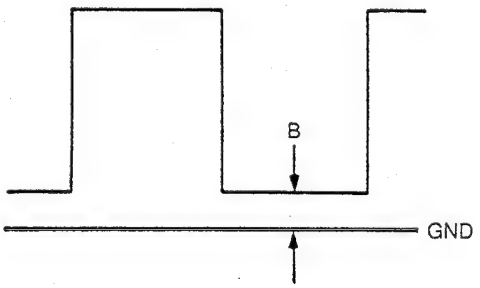
A = 5.0 ± 0.1 V dc

• Adjust ⊘ RVs 1, 3, 5, 7, 9, 11, 13 and 15 while checking each TPs so that the above specification is satisfied.</td><td>VCA-1A adjustment
⊘ RV1/IF-391 (J3)
TP15/IF-391 (J1)</td></tr>
<tr><td>VCA-1B adjustment
⊘ RV3/IF-391 (K3)
TP16/IF-391 (J1)</td></tr>
<tr><td>VCA-1C adjustment
⊘ RV5/IF-391 (K3)
TP17/IF-391 (J1)</td></tr>
<tr><td>VCA-1D adjustment
⊘ RV7/IF-391 (J3)
TP18/IF-391 (J1)</td></tr>
<tr><td>VCA-2A adjustment
⊘ RV9/IF-391 (H3)
TP19/IF-391 (G1)</td></tr>
<tr><td>VCA-2B adjustment
⊘ RV11/IF-391 (J3)
TP20/IF-391 (H1)</td></tr>
<tr><td>VCA-2C adjustment
⊘ RV13/IF-391 (J3)
TP21/IF-391 (H1)</td></tr>
<tr><td>VCA-2D adjustment
⊘ RV15/IF-391 (H3)
TP22/IF-391 (G1)</td></tr>
<tr><td colspan="3">STEP-3
• After this adjustment is completed, be sure to return the settings of S3-4 and S3-5 of the IF-391 board.</td></tr>
</table>

1-3-2. Audio Analog Control Offset Voltage Adjustment

<table>
<tr><th>Adjustment Conditions</th><th>Specifications</th><th>Adjusting Points</th></tr>
<tr><td colspan="3">STEP-1
• Connection : Section 1-2-1 Connection-1
• Extension board : Extend the IF-391 board with the EX-383 board.
• Switch settings : S1/IF-391 (D15) = ON
S2/IF-391 (E15) = ON
S3-1, 2, 3/IF-391 (F15) = ON
S3-4, 5/IF-391 (F15) = OFF</td></tr>
<tr><td rowspan="9">STEP-2

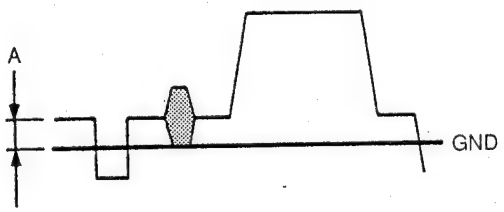
• Oscilloscope
CH-1 : 1 mS/DIV
10 mV/DIV
TRIG : CH-1</td><td rowspan="9">Test Point

B = 0.0 ± 0.02 V dc

• Adjust ⊘ RVs 2, 4, 6, 8, 10, 12, 14 and 16 while checking each TPs so that the above specification is satisfied.</td><td>VCA-1A adjustment
⊘ RV2/IF-391 (J5)
TP15/IF-391 (J1)</td></tr>
<tr><td>VCA-1B adjustment
⊘ RV4/IF-391 (K5)
TP16/IF-391 (J1)</td></tr>
<tr><td>VCA-1C adjustment
⊘ RV6/IF-391 (K2)
TP17/IF-391 (J1)</td></tr>
<tr><td>VCA-1D adjustment
⊘ RV8/IF-391 (J2)
TP18/IF-391 (J1)</td></tr>
<tr><td>VCA-2A adjustment
⊘ RV10/IF-391 (H5)
TP19/IF-391 (G1)</td></tr>
<tr><td>VCA-2B adjustment
⊘ RV12/IF-391 (H5)
TP20/IF-391 (H1)</td></tr>
<tr><td>VCA-2C adjustment
⊘ RV14/IF-391 (H2)
TP21/IF-391 (H1)</td></tr>
<tr><td>VCA-2D adjustment
⊘ RV16/IF-391 (H2)
TP22/IF-391 (G1)</td></tr>
<tr><td colspan="3">STEP-3
• After this adjustment is completed, be sure to return the settings of S3-4 and S3-5 of the IF-391 board.</td></tr>
</table>

1-3-3. DC Level Adjustment (BKE-2030)

Adjustment Conditions	Specifications	Adjusting Points
STEP-1 • Connection : Section 1-2-1 Connection-2 • Extension board : Extend the IF-391 board mounting the CF-46 board with the EX-383 board.		
STEP-2 • Input signal REF VIDEO IN : Black Burst/Color Bar/Flat Field • Switch settings : MANUAL/PRESET Switch S1/CF-46 (E8) : PRESET • Jumper Plug settings : COR1, 3, 5, 7 : open COR2, 4, 6, 8 : short • Oscilloscope CH-1 : 10 mS/DIV 0.1V/DIV TRIG : CH-1	TP11/CF-46 (C1)  A = 0 ± 0.05 V	⊘ RV1/CF-46 (E1)

1-3-4. SC Phase Preset Calibration Adjustment (BKE-2030)

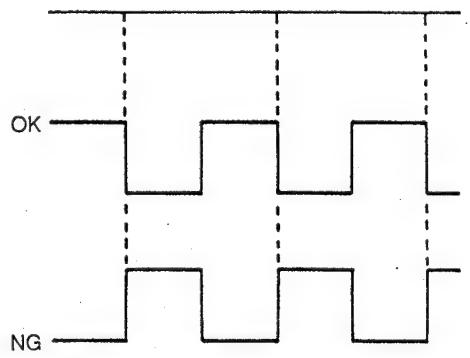
<table>
<tr><th>Adjustment Conditions</th><th>Specifications</th><th>Adjusting Points</th></tr>
<tr><td colspan="3">STEP-1
• Connection : Section 1-2-1 Connection-2
• Extension board : Extend the IF-391 board mounting the CF-46 board with the EX-383 board.</td></tr>
<tr><td>STEP-2
• Input signal
REF VIDEO IN :
Black Burst/Color Bar/Flat Field

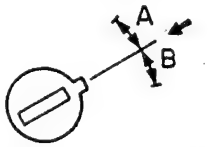
• Switch settings :
MANUAL/PRESET Switch
S1/CF-46 (E8) : PRESET

• Jumper Plug settings :
COR1, 3, 5, 7 : open
COR2, 4, 6, 8 : short

• Oscilloscope
CH-1 : 20 mS/DIV
2V/DIV
TRIG : CH-1</td><td>FIELD REF
(Test signal generator output)

TP9/CF-46 (C8)

• While maintaining the above phase relation, turn ⊘ RV2/CF-46 (D1) and find the range in which the LED D2/CF-46 (B8) lights up, and set RV2 to the center of this range.</td><td>⊘ RV2/CF-46 (D1)
 

• Set to the point shown by the arrow.
• D2/CF-46 (B8) lights up in the A through B range.</td></tr>
</table>

1-3-5. SC Phase Manual Calibration Adjustment (BKE-2030)

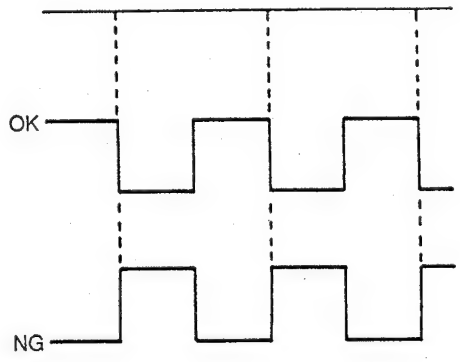
<table>
<tr><th>Adjustment Conditions</th><th>Specifications</th><th>Adjusting Points</th></tr>
<tr><td colspan="3">STEP-1
• Connection : Section 1-2-1 Connection-2
• Extension board : Extend the IF-391 board mounting the CF-46 board with the EX-383 board.</td></tr>
<tr><td>STEP-2
• Input signal
REF VIDEO IN :
Black Burst/Color Bar/Flat Field

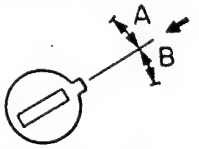
• Switch settings :
MANUAL/PRESET Switch
S1/CF-46 (E8) : PRESET

• Jumper Plug settings :
COR1, 3, 5, 7 : open
COR2, 4, 6, 8 : short

• Oscilloscope
CH-1 : 20 mS/DIV
2V/DIV
TRIG : CH-1</td><td>FIELD REF
(Test signal generator output)

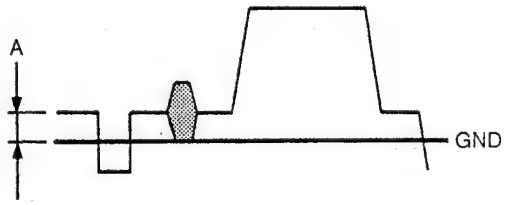
TP9/CF-46 (C8)

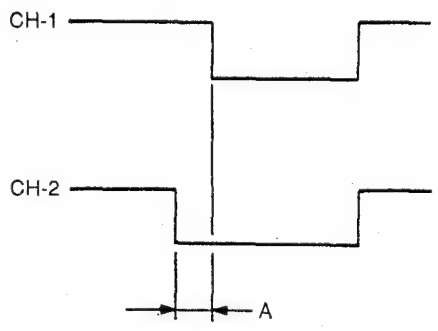
• While maintaining the above phase relation, turn ⊘ RV3/CF-46 (C8) and find the range in which the LED D2/CF-46 (B8) lights up, and set RV3 to the center of this range.</td><td>⊘ RV3/CF-46 (C8)
 

• Set to the point shown by the arrow.
• D2/CF-46 (B8) lights up in the A through B range.</td></tr>
</table>

1-3-6. DC Level Adjustment (BKE-2031)

Adjustment Conditions	Specifications	Adjusting Points
STEP-1 • Connection : Section 1-2-1 Connection-2 • Extension board : Extend the IF-391 board mounting the CF-47 board with the EX-383 board.		
STEP-2 • Input signal REF VIDEO IN : Black Burst/Color Bar/Flat Field • Switch settings : MANUAL/PRESET Switch S1/CF-47 (D10) : PRESET • Oscilloscope CH-1 : 10 mS/DIV 0.1V/DIV TRIG : CH-1	TP2/CF-47 (B1)  A = 0 ± 0.05 V	⊘ RV2/CF-47 (B1)

1-3-7. H-Phase Adjustment (BKE-2031)

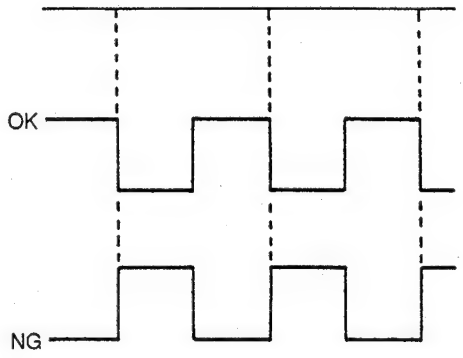
Adjustment Conditions	Specifications	Adjusting Points
STEP-1 • Connection : Section 1-2-1 Connection-2 • Extension board : Extend the IF-391 board mounting the CF-47 board with the EX-383 board.		
STEP-2 • Input signal REF VIDEO IN : Black Burst/Color Bar/Flat Field • Switch settings : MANUAL/PRESET Switch S1/CF-47 (D10) : PRESET PAL/SECAM Switch S3/CF-47 (D4) : PAL • Oscilloscope CH-1 : 1 µS/DIV 2V/DIV CH-2 : 1 µS/DIV 0.2V/DIV TRIG : CH-1	CH-1: TP14/CF-47 (B2) CH-2: TP13/CF-47 (C6)  A = 0 ± 0.01 µ sec	⊘ RV3/CF-47 (D8)

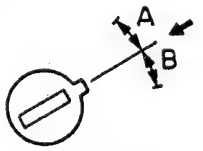
1-3-8. SC Phase Preset Calibration Adjustment (BKE-2031)

<table>
<tr><th>Adjustment Conditions</th><th>Specifications</th><th>Adjusting Points</th></tr>
<tr><td colspan="3">STEP-1
• Connection : Section 1-2-1 Connection-2
• Extension board : Extend the IF-391 board mounting the CF-47 board with the EX-383 board.</td></tr>
<tr><td>STEP-2
• Input signal
REF VIDEO IN :
Black Burst/Color Bar/Flat Field

• Switch settings :
MANUAL/PRESET Switch
S1/CF-47 (D10) : PRESET
PAL/SECAM Switch
S3/CF-47 (D4) : PAL

• Oscilloscope
CH-1 : 20 mS/DIV
2V/DIV
TRIG : CH-1</td><td>FIELD REF
(Test signal generator output)

TP12/CF-47 (B7)
 

• While maintaining the above phase relation, turn ⊘ RV5/CF-47 (C1) and find the range in which the LED D1/CF-47 (B10) lights up, and set RV5 to the center of this range.</td><td>⊘ RV5/CF-47 (C1)
 

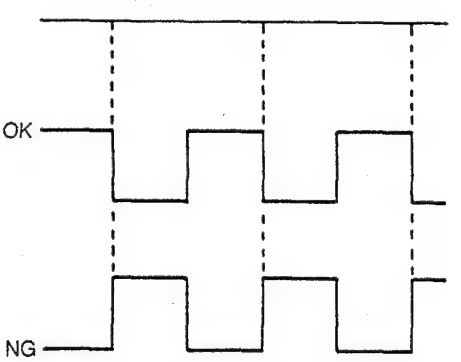
• Set to the point shown by the arrow.
• D1 lights up in the A through B range.</td></tr>
</table>

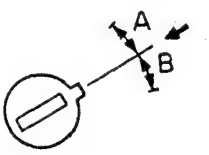
1-3-9. SC Phase Manual Calibration Adjustment (BKE-2031)

<table>
<tr><th>Adjustment Conditions</th><th>Specifications</th><th>Adjusting Points</th></tr>
<tr><td colspan="3">STEP-1
• Connection : Section 1-2-1 Connection-2
• Extension board : Extend the IF-391 board mounting the CF-47 board with the EX-383 board.</td></tr>
<tr><td>STEP-2
• Input signal
REF VIDEO IN :
Black Burst/Color Bar/Flat Field

• Switch settings :
MANUAL/PRESET Switch
S1/CF-47 (D10) : MANUAL
PAL/SECAM Switch
S3/CF-47 (D4) : PAL

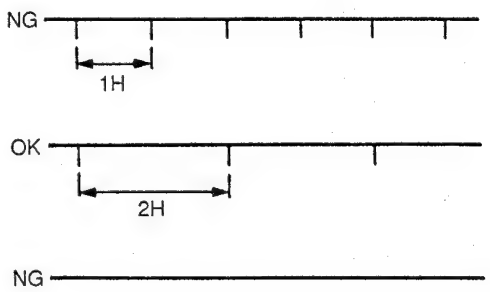
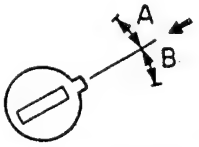
• Oscilloscope
CH-1 : 20 mS/DIV
2V/DIV
TRIG : CH-1</td><td>FIELD REF
(Test signal generator output)

TP12/CF-47 (B7)
 

• While maintaining the above phase relation, turn ⊘ RV5/CF-47 (C10) and find the range in which the LED D1/CF-47 (C10) lights up, and set RV5 to the center of this range.</td><td>⊘ RV5/CF-47 (C10)
 

• Set to the point shown by the arrow.
• D1/CF-47 (C10) lights up in the A through B range.</td></tr>
</table>

1-3-10. SECAM Calibration Adjustment (BKE-2031)

Adjustment Conditions	Specifications	Adjusting Points
STEP-1 • Connection : Section 1-2-1 Connection-2 • Extension board : Extend the IF-391 board mounting the CF-47 board with the EX-383 board.		
STEP-2 • Input signal REF VIDEO IN : VIDEO signal • Switch settings : MANUAL/PRESET Switch S1/CF-47 (D10) : PRESET PAL/SECAM Switch S3/CF-47 (D4) : SECAM • Oscilloscope CH-1 : 20 µS/DIV 1V/DIV TRIG : CH-1	TP7/CF-47 (D3)  • Observe the signal of TP7 on the CF-47 board, turn ⊘ RV4 and find the range in which the signal specified above (2H period) can be detected, and set RV4 to the center of this range.	⊘ RV4/CF-47 (D1)  • Set to the point shown by the arrow. • Range A through B in which the signal can be detected.

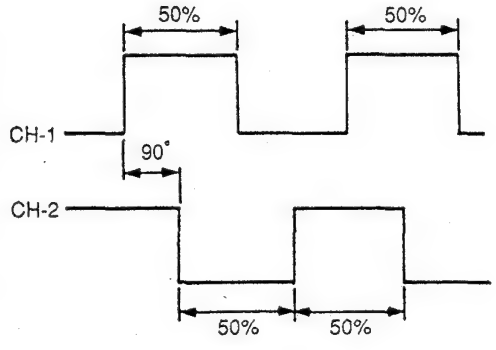
1-4. BKE-2010 ADJUSTMENTS

1-4-1. Search Dial Pulse Amplifier Adjustment

<table>
<tr><th>Adjustment Conditions</th><th>Specifications</th><th>Adjusting Points</th></tr>
<tr><td colspan="3">STEP-1
• Connection : Section 1-2-1 Connection-3</td></tr>
<tr><td colspan="3">STEP-2
• Enter the JOG mode, and while rotating the search dial, turn ⊘ RV1 on the DET-11 board in the clockwise and counter-clockwise directions.
Set ⊘ RV1 to the center between the point at which a pulse appears at TP10 of the CPU-132 board when ⊘ RV1 is turned counterclockwise, and the point at which a pulse appears when ⊘ RV1 is turned.</td></tr>
<tr><td colspan="3">STEP-3
• Enter the JOG mode and, like in STEP-2, adjust ⊘ RV2 on the DET-11 board with respect to the output from TP9 on the CPU-132 board.</td></tr>
<tr><td>STEP-4

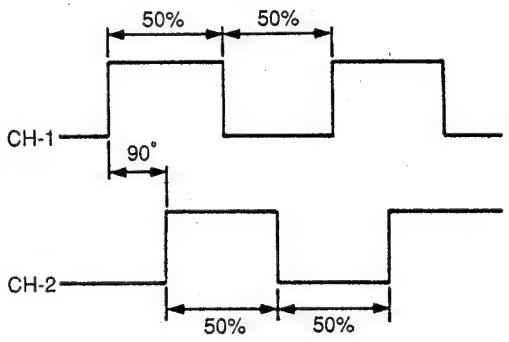
• Oscilloscope
CH-1 : 2 mS/DIV
2V/DIV
CH-2 : 2 mS/DIV
2V/DIV
TRIG : CH-1</td><td>• Rotate the search dial in the FWD direction
• Check the phases of TP10 and TP9.

CH-1 : TP10/CPU-132 (G6)
CH-2 : TP9/CPU-132 (G6)

NOTE : Adjust the duty ratio to 50% and the phase difference of CH-1 and CH-2 to 90°C.</td><td>⊘ RV1/DET-11
TP10/CPU-132 (G6)

⊘ RV2/DET-11
TP9/CPU-132 (G6)</td></tr>
</table>

Adjustment Conditions	Specifications	Adjusting Points
STEP-5 • Oscilloscope CH-1 :2 mS/DIV 2V/DIV CH-2 :2 mS/DIV 2V/DIV TRIG :CH-1	• Rotate the search dial in the REV direction • Check the phases of TP10 and TP9. CH-1 : TP10/CPU-132 (G6) CH-2 : TP9/CPU-132 (G6)  **NOTE :** Adjust the duty ratio to 50% and the phase difference of CH-1 and CH-2 to 90°C.	⊘ RV1/DET-11 TP10/CPU-132 (G6) ⊘ RV2/DET-11 TP9/CPU-132 (G6)

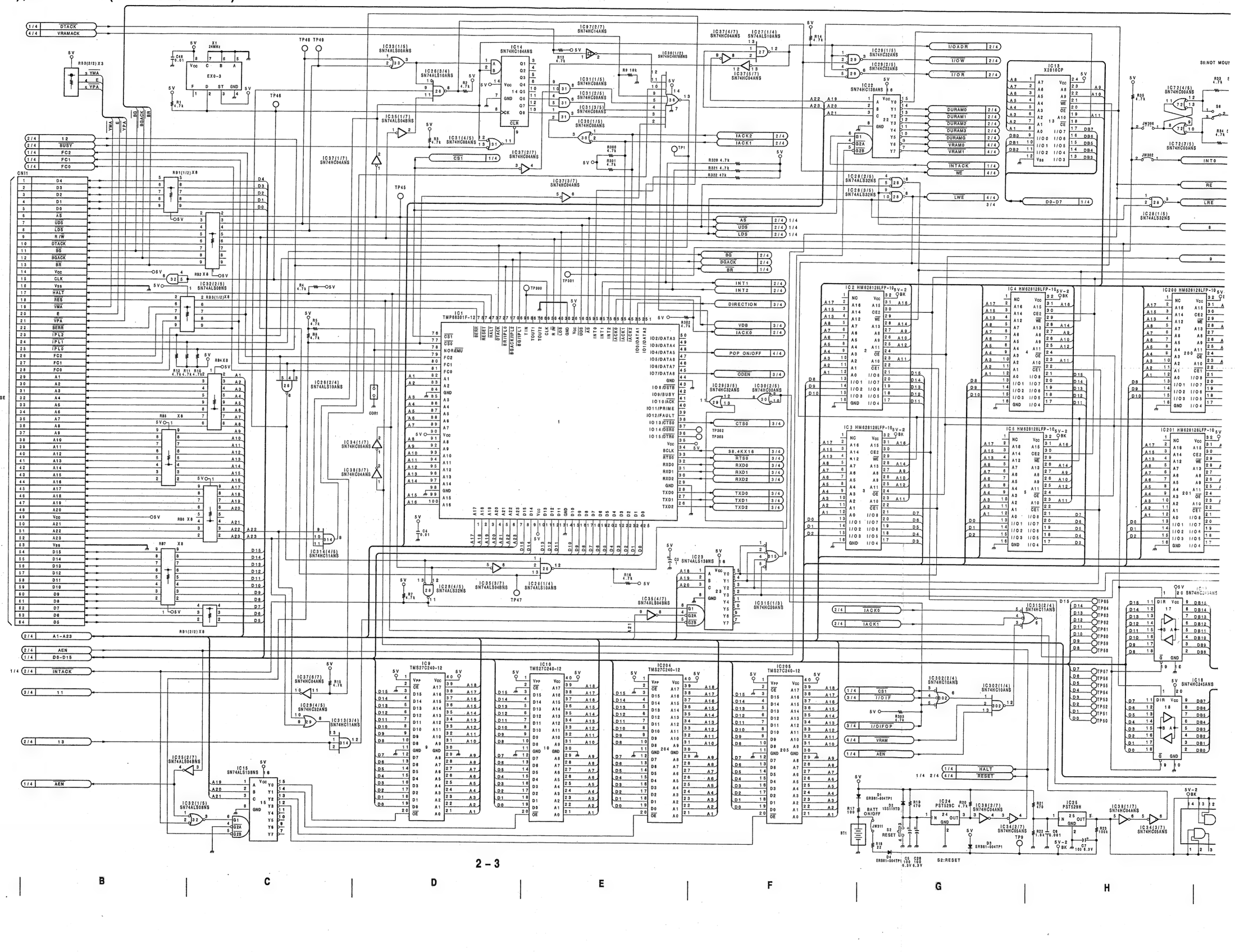
SECTION 2
SCHEMATIC DIAGRAMS

Board	Function	Page
BVE-2000		
SY-184(1/4)	Main CPU(CPU/ROM/RAM)	2-3
SY-184(2/4)	Main CPU(DMA/FDC)	2-5
SY-184(3/4)	Main CPU(Clock,RS232)	2-7
SY-184(4/4)	Main CPU(CRTC,VRAM)	2-9
IF-391(1/3)	Interface(SYNC GEN,GPI,Monitor SWER)	2-11
IF-391(2/3)	Interface(Port A/B)	2-13
IF-391(3/3)	Interface(SWER/Mixer)	2-15
CF-46(BKE-2030)	NTSC Color Framing Detector	2-17
CF-47(BKE-2031)	PAL Color Framing Detector	2-19
IF-402(1/3)(BKE-2020)	RS422 I/F(Port E,F)	2-21
IF-402(2/3)(BKE-2020)	RS422 I/F(Port G,H)	2-23
IF-402(3/3)(BKE-2020)	RS422 I/F(Port I,J)	2-25
MB-454(1/3)	Mother Board	2-27
MB-454(2/3)	Mother Board	2-29
MB-454(3/3)	Mother Board	2-31
CN-781	Connector	2-33
CN-786	Connector	2-35
CN-787	Connector	2-37
CN-788(BKE-2020)	Connector	2-39
FRAME WIRING(1/2)	Frame Wiring	2-41
FRAME WIRING(2/2)	Frame Wiring	2-43
BKE-2010		
CONTROL PANEL	Control Panel	2-45

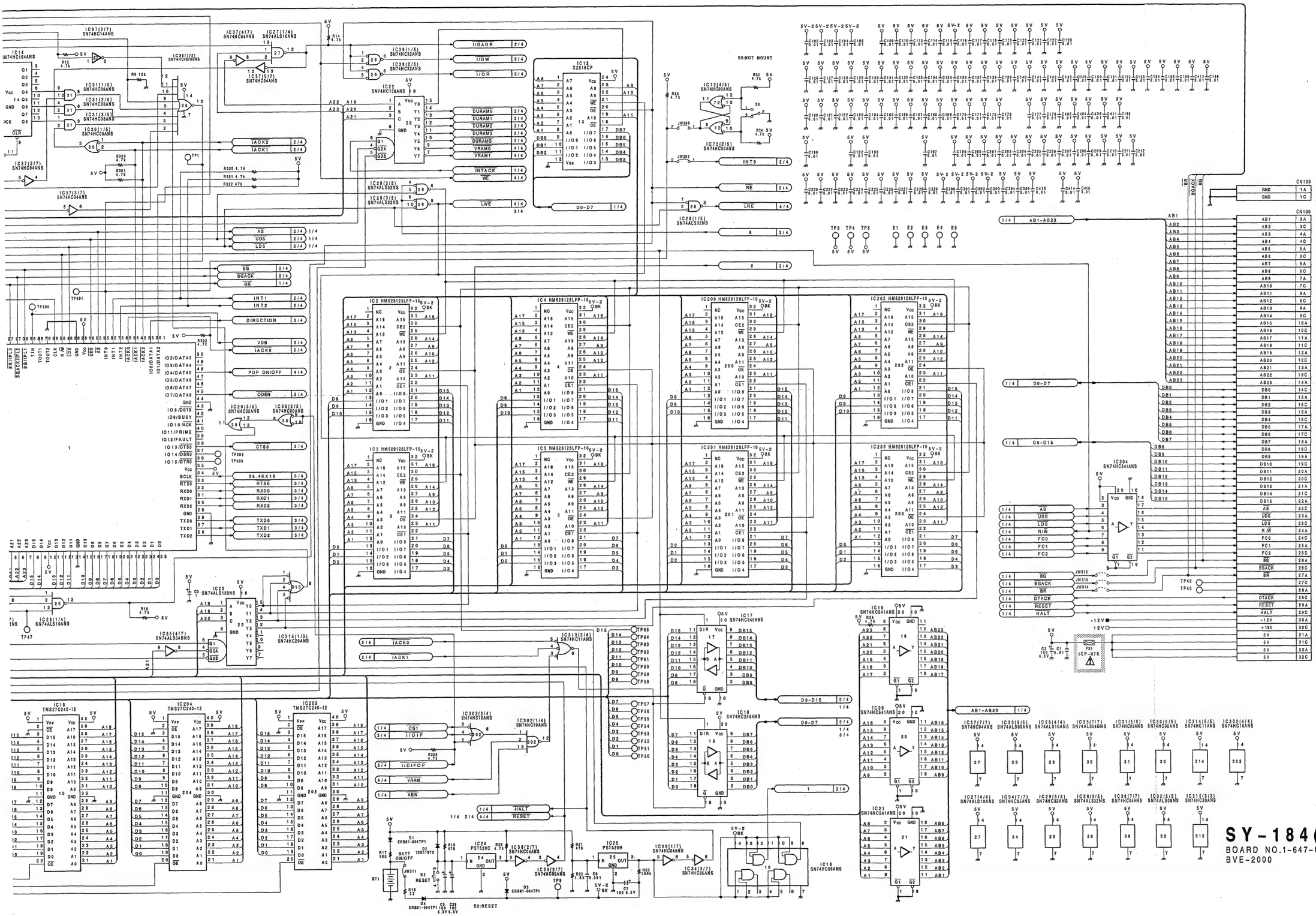
注意；⚠ 印のついた部品は安全性を維持するために重要な部品です。
従って交換する時は必ず指定の部品を使ってください。

NOTE;The ⚠ -marked components are critical to sefety.
Replace only with same components as specified.

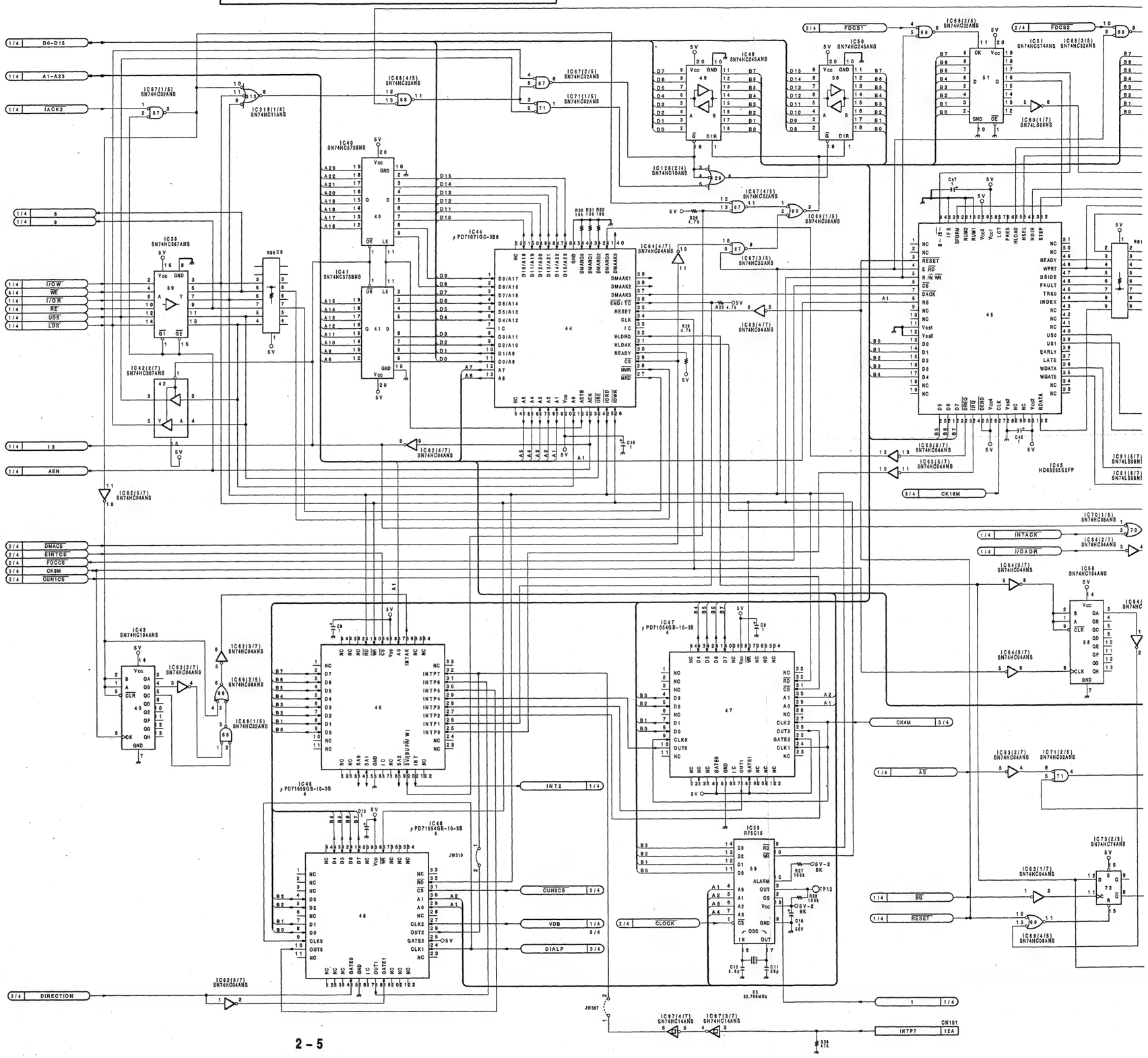
SY-184(1/4);Main CPU(CPU/ROM/RAM)



SY-184(1/4)

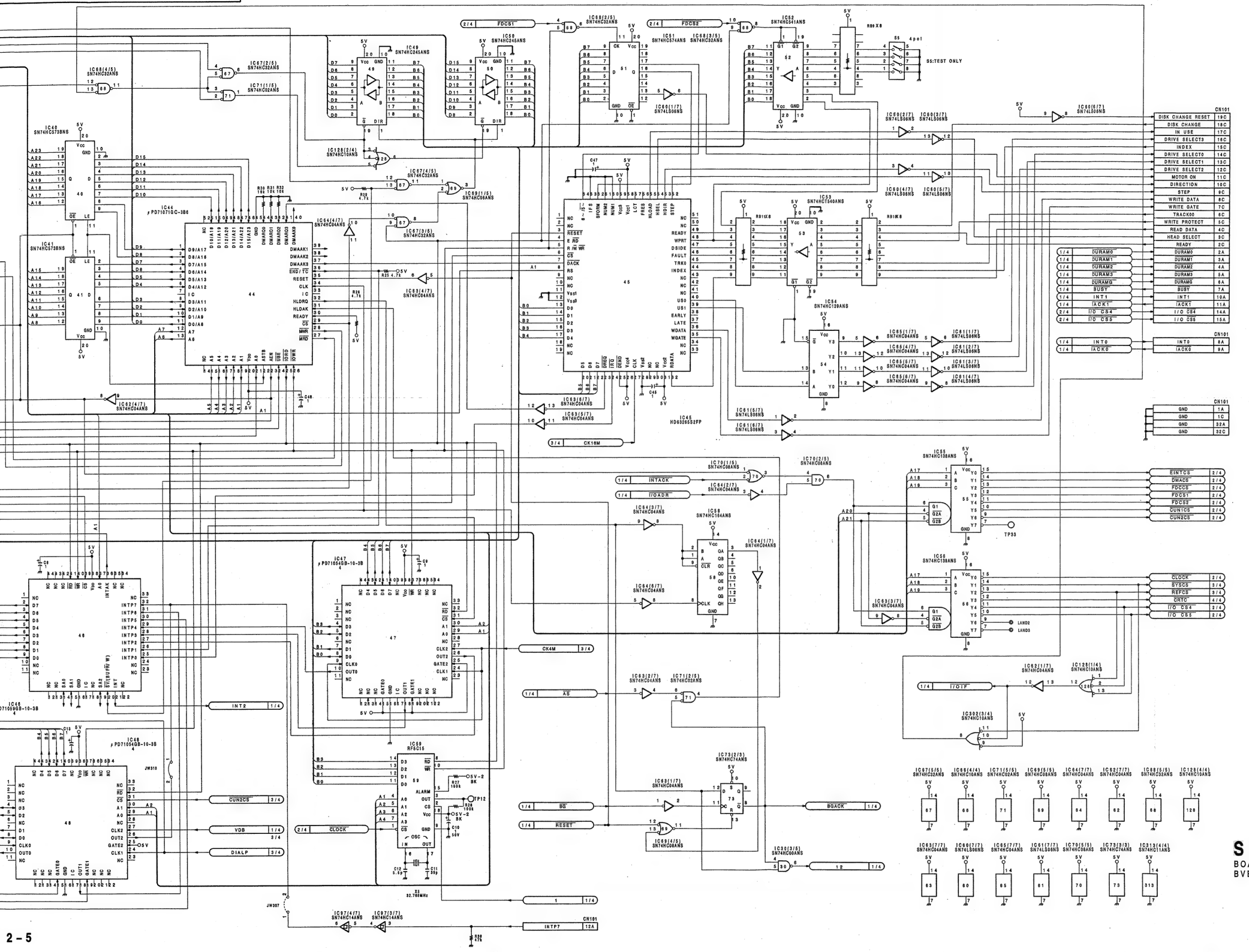

IC14 SN74HC164ANS
IC97(2/7) SN74HC14ANS
IC37(4/7) SN74HC04ANS
IC27(1/4) SN74ALS10ANS
IC38(1/2) SN74HC4078NS
IC31(1/5) SN74HC08ANS
IC31(2/5) SN74HC08ANS
IC31(3/5) SN74HC08ANS
IC31(4/5) SN74HC08ANS
IC37(5/7) SN74HC04ANS
IC37(6/7) SN74HC04ANS
IC37(3/7) SN74HC04ANS
IC25(1/5) SN74HC32ANS
IC29(5/5) SN74HC32ANS
IC22 SN74HC138ANS
IC28(2/5) SN74ALS02NS
IC28(3/5) SN74ALS02NS
IC12 X2816CP
S6:NOT MOUNT
IC72(4/5) SN74HC00ANS
IC72(2/5) SN74HC00ANS
IC28(1/5) SN74ALS02NS
IC313(2/4) SN74HC11ANS
IC2 HM628128LFP-10
IC4 HM628128LFP-10
IC200 HM628128LFP-10
IC202 HM628128LFP-10
IC3 HM628128LFP-10
IC5 HM628128LFP-10
IC201 HM628128LFP-10
IC203 HM628128LFP-10
IC98(3/5) SN74HC32ANS
IC30(2/5) SN74HC00ANS
IC10 TMS27C240-12
IC294 TMS27C240-12
IC205 TMS27C240-12
IC23 SN74ALS138NS
IC28(1/4) SN74ALS10ANS
IC35(4/7) SN74ALS04BNS
IC315(1/3) SN74HC32ANS
IC17 SN74HC245ANS
IC18 SN74HC245ANS
IC19 SN74HC541ANS
IC20 SN74HC541ANS
IC21 SN74HC541ANS
IC304 SN74HC541ANS
IC302(2/4) SN74HC10ANS
IC302(1/4) SN74HC10ANS
IC24(2/7) SN74HC04ANS
IC38(2/7) SN74HC04ANS
IC38(1/7) SN74HC04ANS
IC34(3/7) SN74HC05ANS
IC16 SN74HC08ANS
IC24 PST529C
IC25 PST529H
IC37(7/7) SN74HC04ANS
IC39(5/5) SN74ALS00ANS
IC26(4/4) SN74ALS10ANS
IC35(7/7) SN74ALS04BNS
IC31(5/5) SN74HC08ANS
IC30(5/5) SN74HC00ANS
IC314(5/5) SN74HC11ANS
IC302(4/4) SN74HC10ANS
IC27(4/4) SN74ALS10ANS
IC34(7/7) SN74HC05ANS
IC29(5/5) SN74HC32ANS
IC28(5/5) SN74ALS32NS
IC38(7/7) SN74HC04ANS
IC32(5/5) SN74ALS08NS
IC315(3/3) SN74HC32ANS
CN100
I/OADR
I/OW
I/OR
DURAM0
DURAM1
DURAM2
DURAM3
DURAMG
VRAM0
VRAM1
IACK2
IACK1
INTACK
WE
LWE
INT0
RE
LRE
AS
UDS
LDS
BG
BGACK
BR
INT1
INT2
DIRECTION
VDB
IACK0
POP ON/OFF
ODEN
CTS0
RTS0
RXD0
RXD1
RXD2
TXD0
TXD1
TXD2
38.4KX16
AB1-AB23
D0-D7
D8-D15
DTACK
RESET
HALT
-12V
+12V
5V
TP1
TP300
TP301
TP302
TP303
TP42
TP43
TP47
TP50
TP51
TP52
TP53
TP54
TP55
TP56
TP57
TP60
TP61
TP62
TP63
TP64
TP65
TP9
E1
E2
E3
E4
E5
JW302
JW303
JW304
JW305
JW306
JW307
JW308
JW309
JW310
JW311
JW312
JW313
JW314
S1 RESET
S2:RESET
BT1
PS1 ICP-N75
SY-184(1/4) BOARD
BOARD NO.1-647-048-11
BVE-2000

SY-184(2/4);Main CPU(DMA/FDC)



A | B | C | D | E | F | G | H

SY-184(2/4)

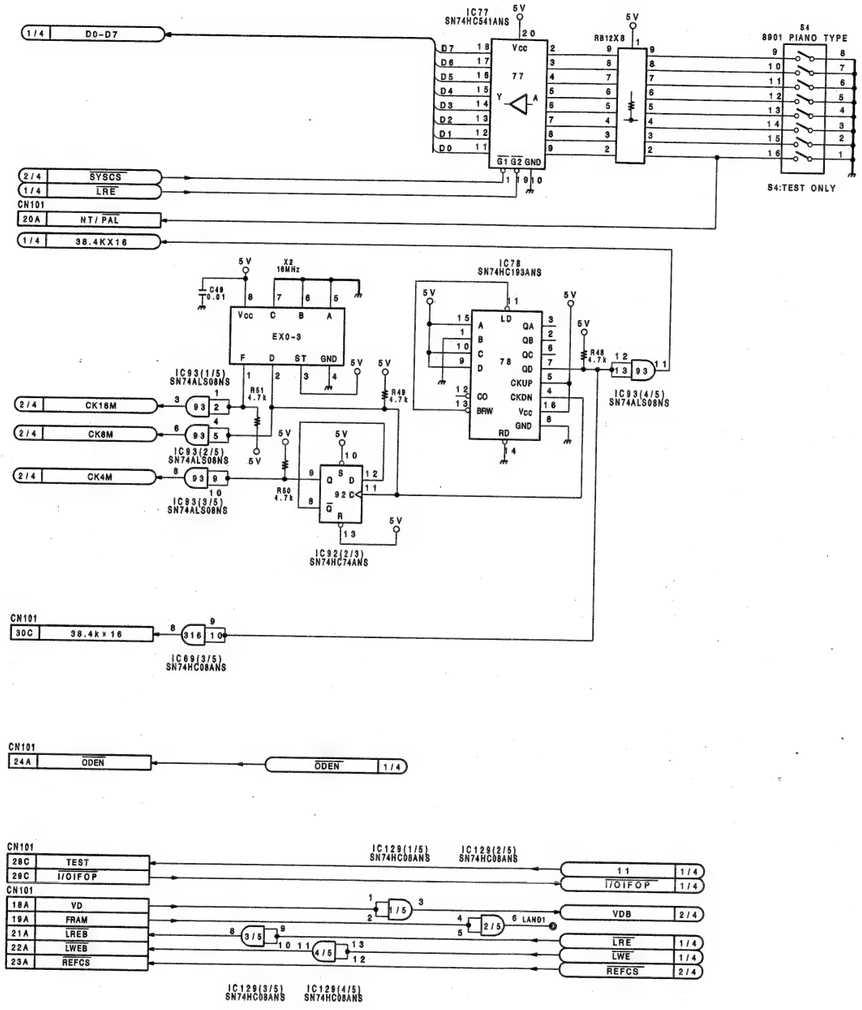


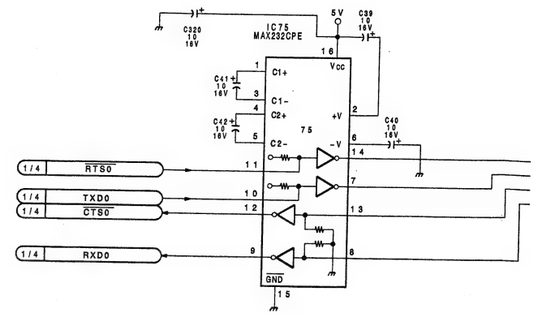
SY-184(2/4) BOARD

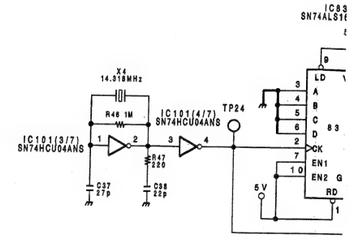
BOARD NO.1-647-048-11
BVE-2000

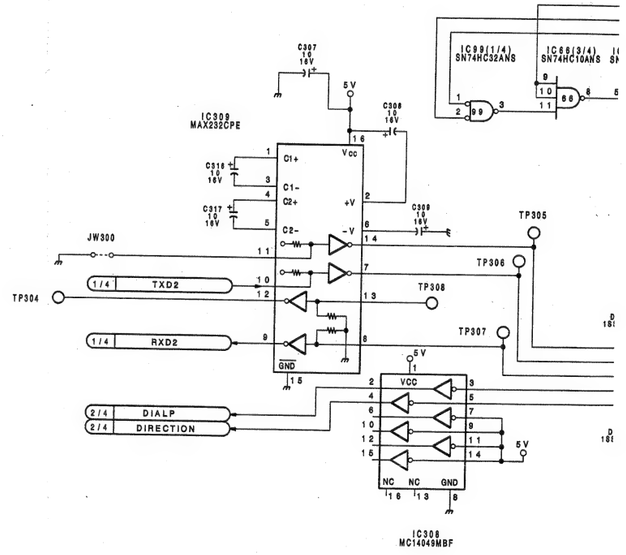
2-5

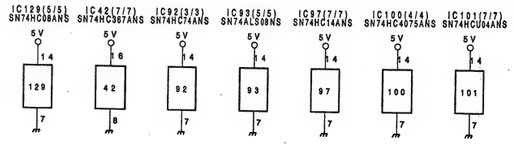
SY-184(3/4);Main CPU(Clock,RS232)



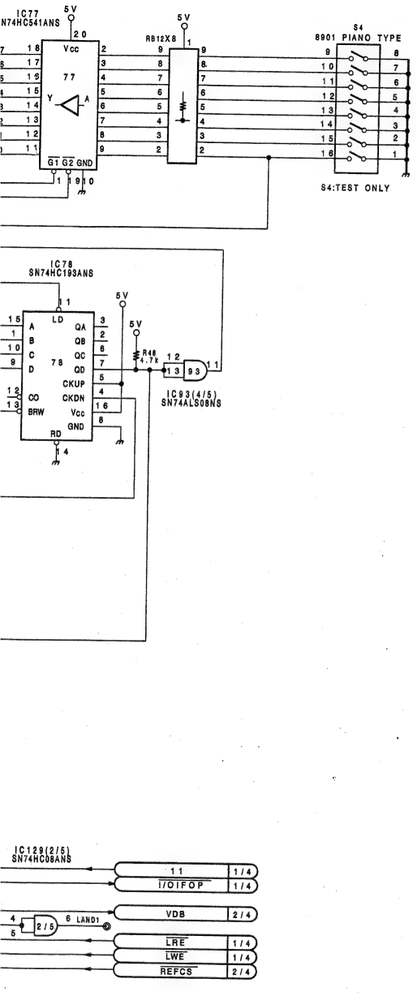


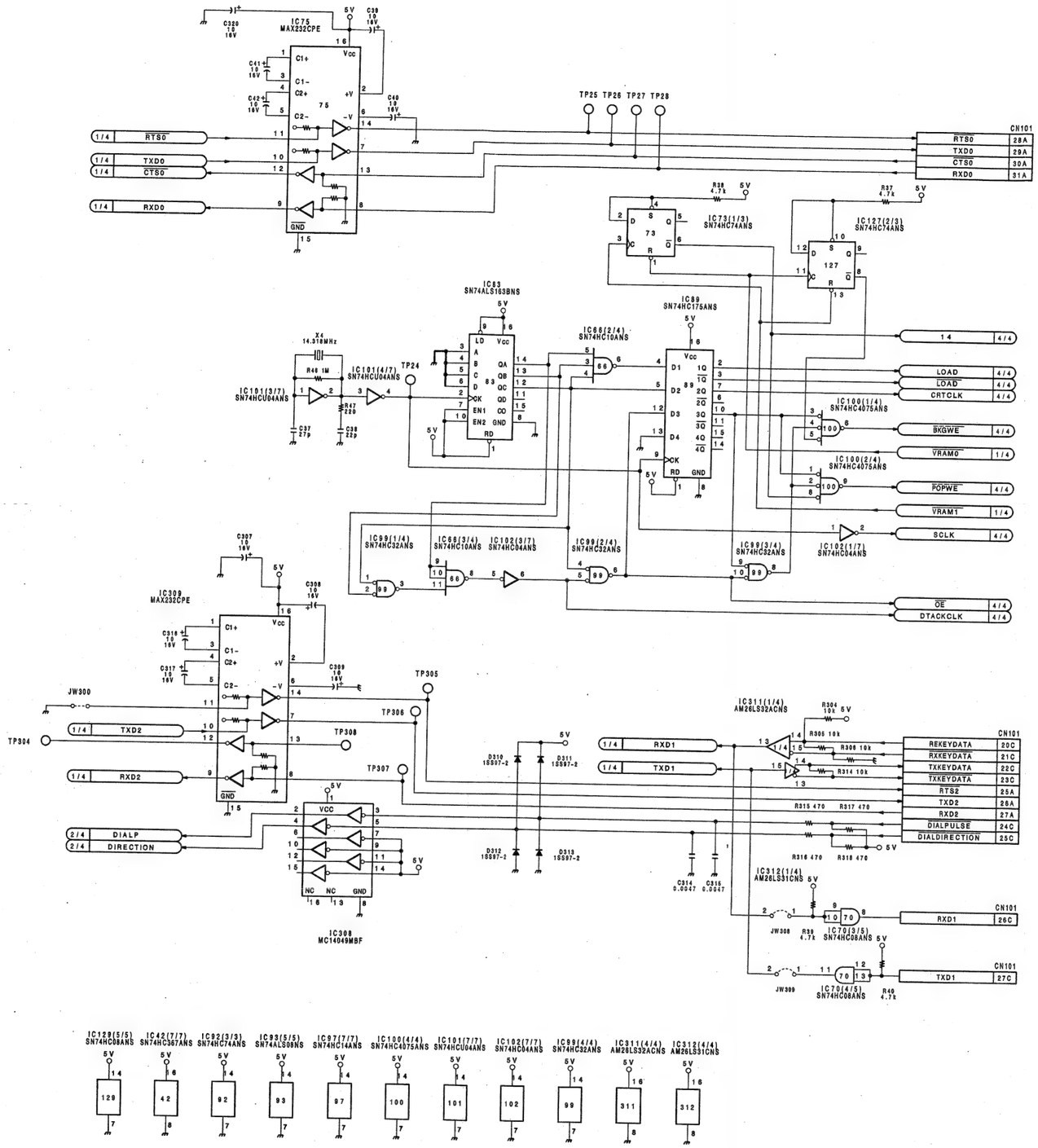






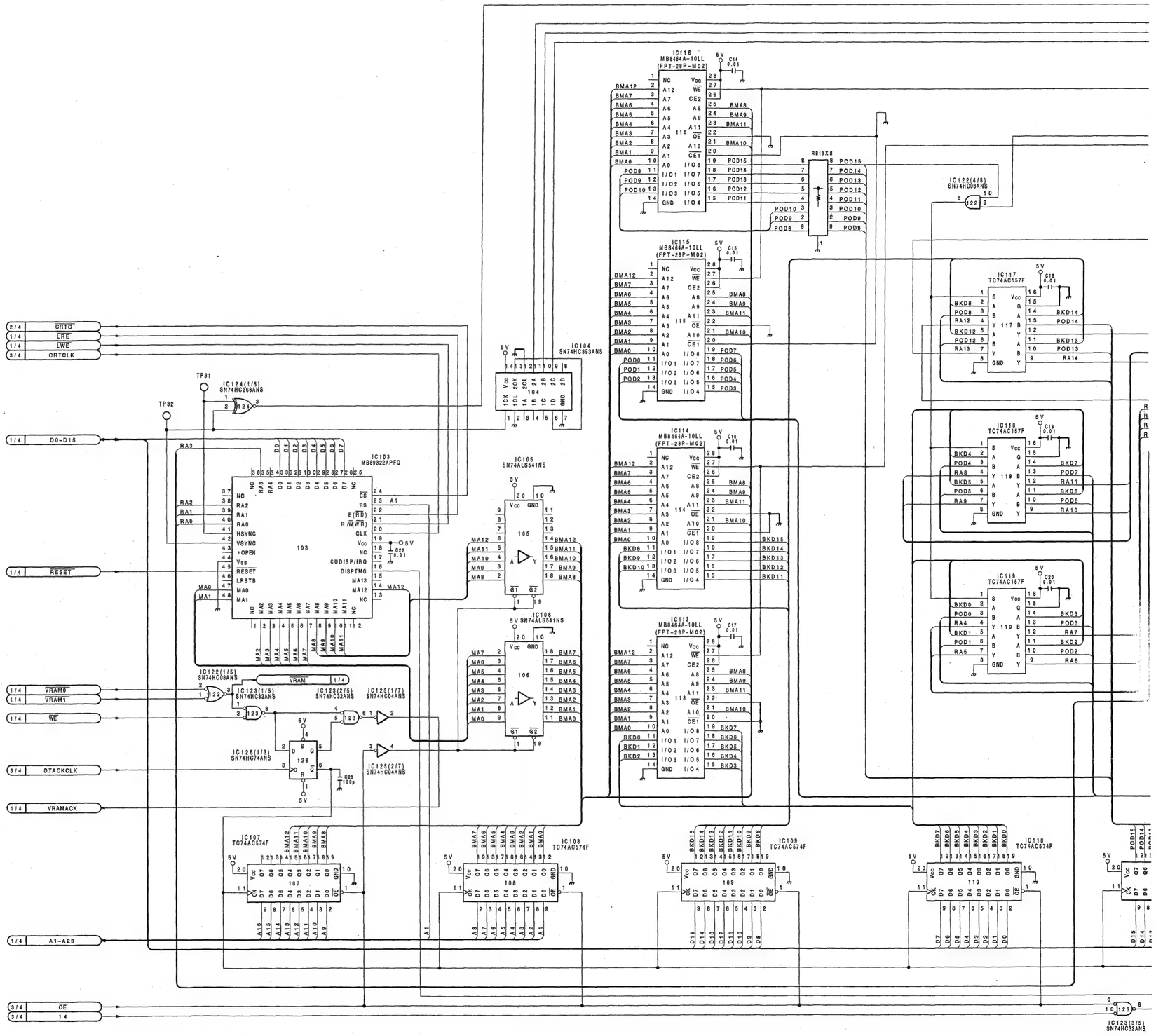
A | B | C | D | E | F | G | H





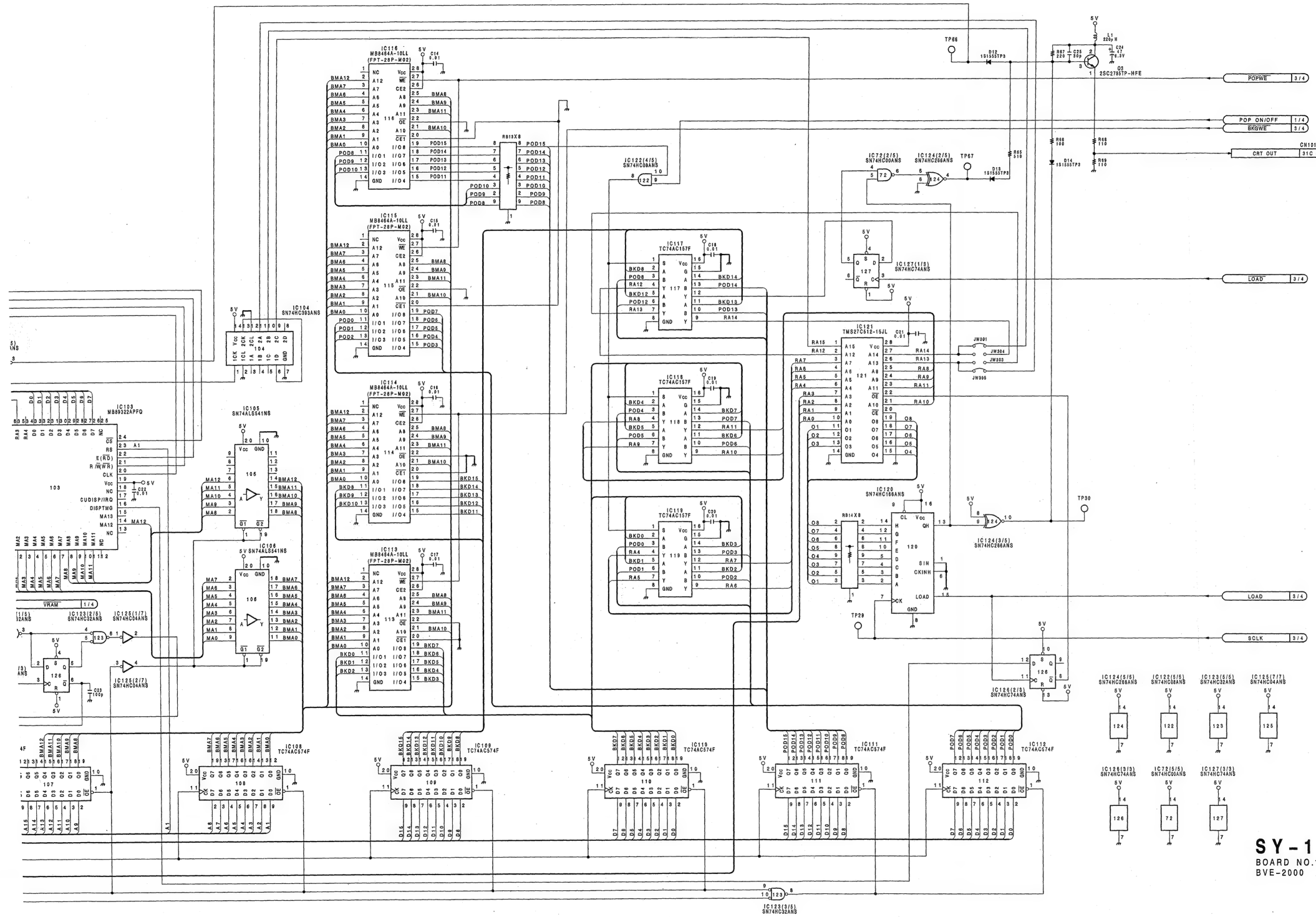
SY-184(3/4) BOARD
BOARD NO.1-647-048-11
BVE-2000

SY-184(4/4);Main CPU(CRTC,VRAM)



A | B | C | D | E | F | G | H

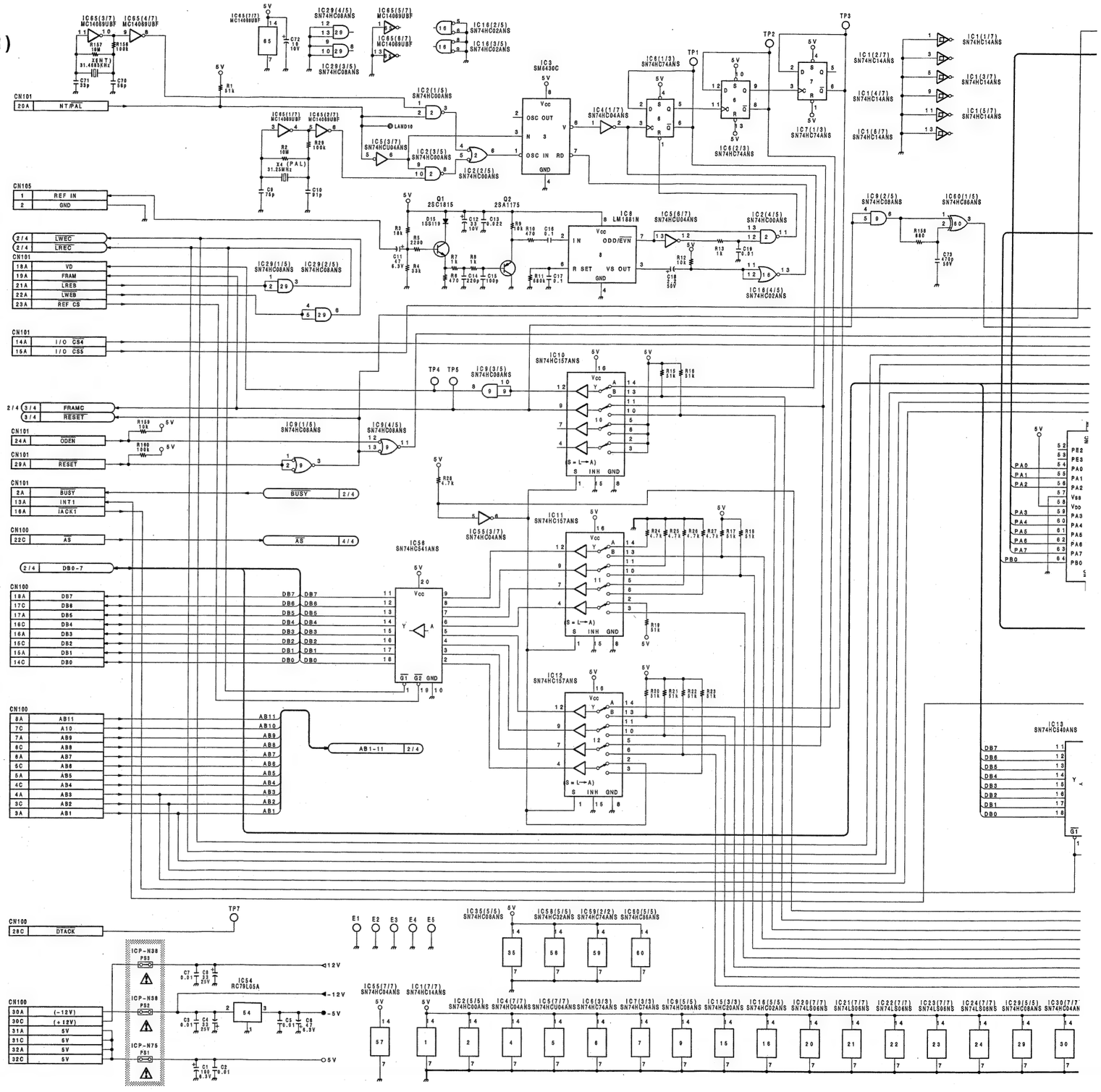
SY-184(4/4)



SY-184(4/4) BOARD

BOARD NO.1-647-048-11
BVE-2000

IF-391(1/3);Interface(SYNC GEN,GPI,Monitor SWER)



2-11

A | B | C | D | E | F | G | H

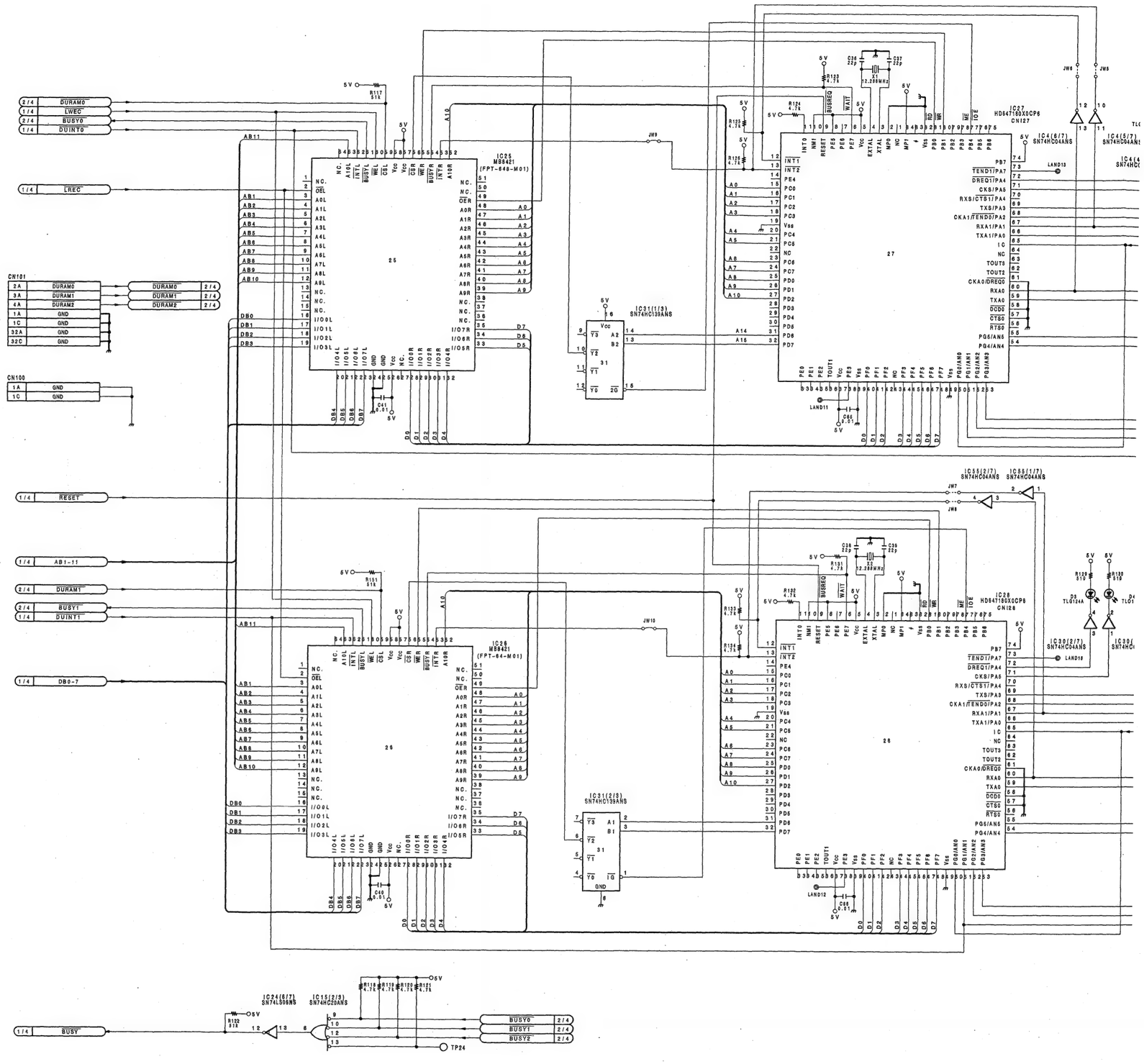
IF-391(1/3)

IF-391(1/3) BOARD

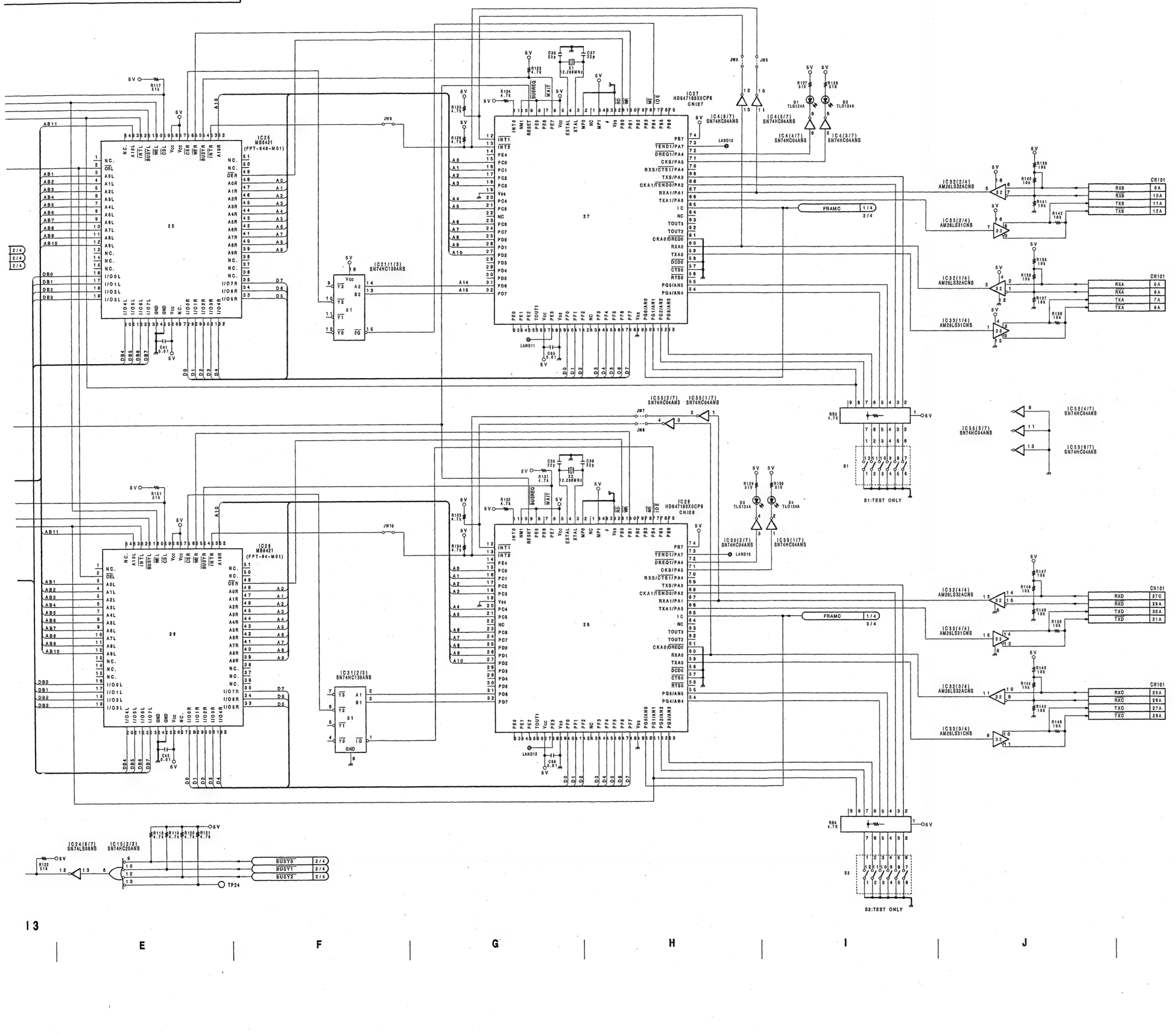
BOARD NO.1-647-038-11

BVE-2000

IF-391(2/3);Interface(Port A/B)



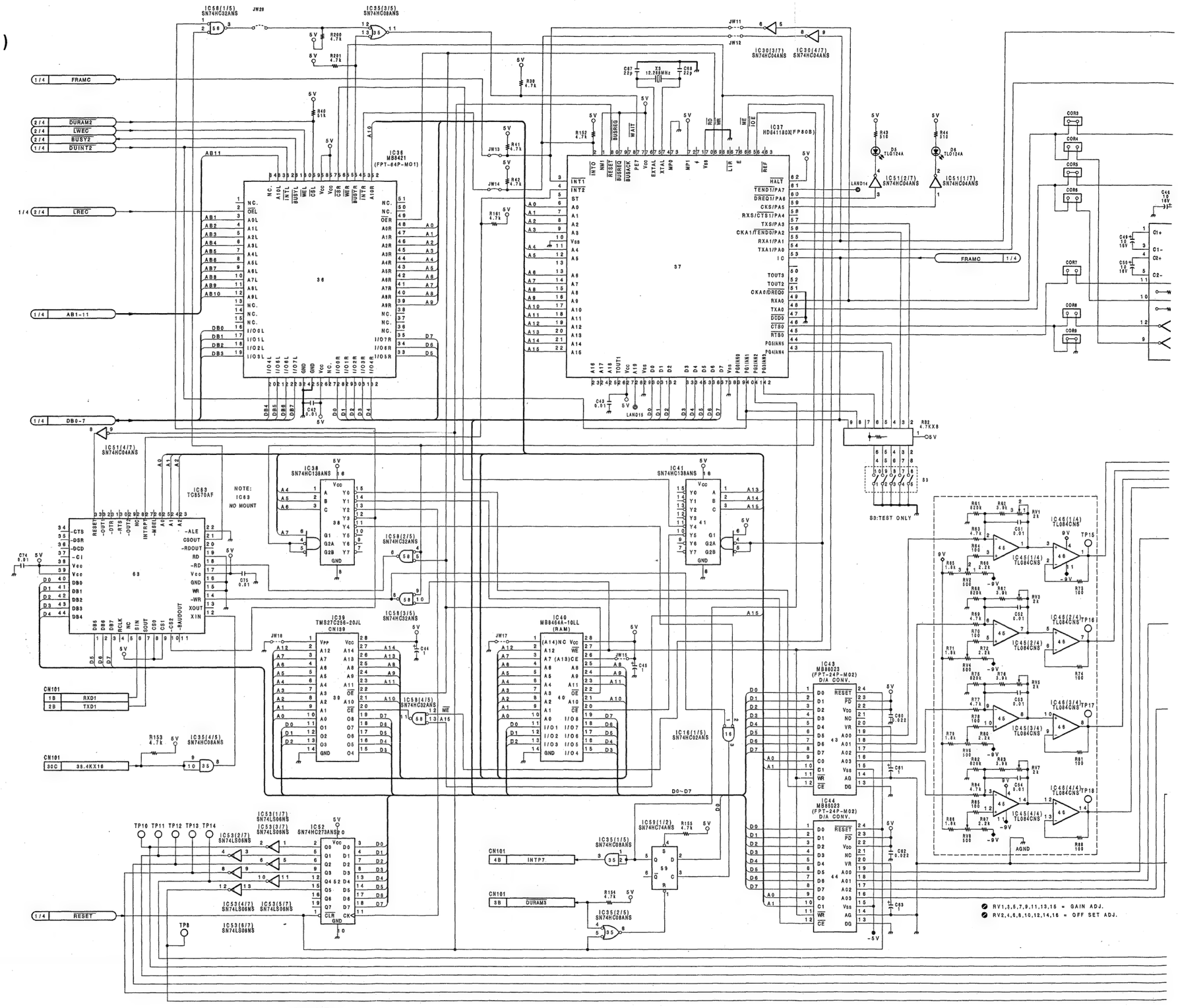
IF-391(2/3)



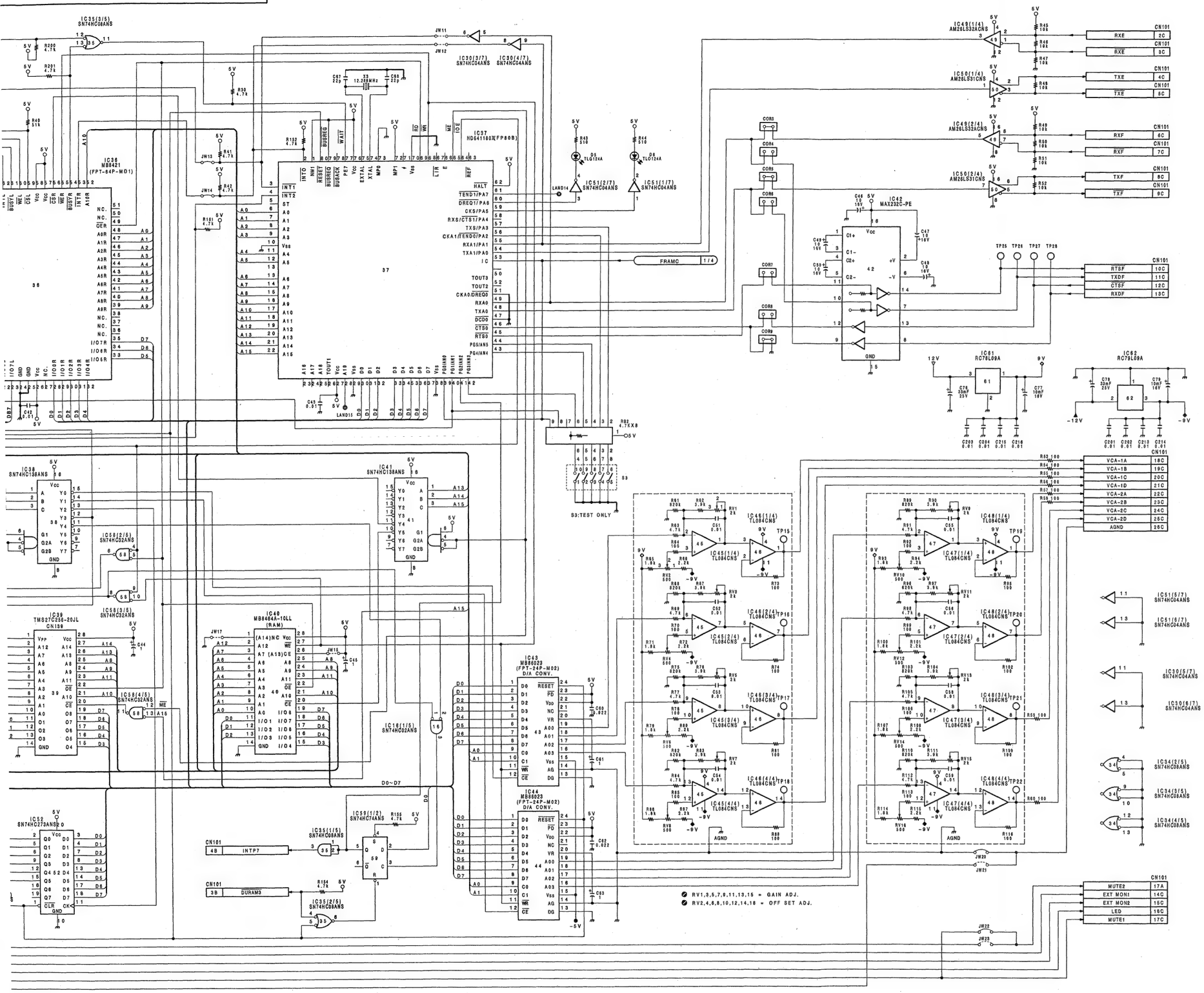
IF-391(2/3) BOARD

BOARD NO.1-647-038-11
BVE-2000

IF-391(3/3);Interface(SWER/Mixer)



IF-391(3/3)

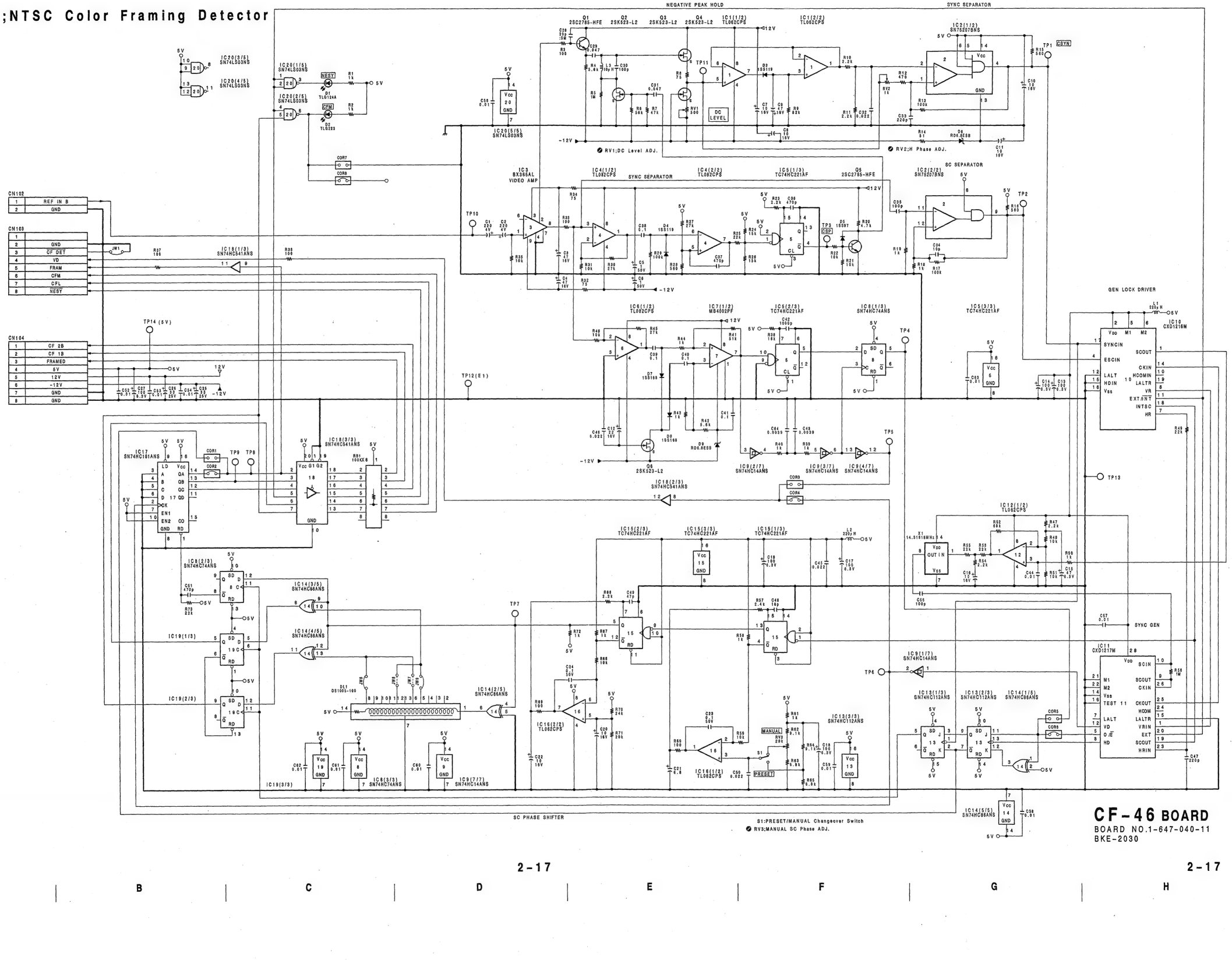


IF-391(3/3) BOARD

BOARD NO.1-647-038-11
BVE-2000

2-15

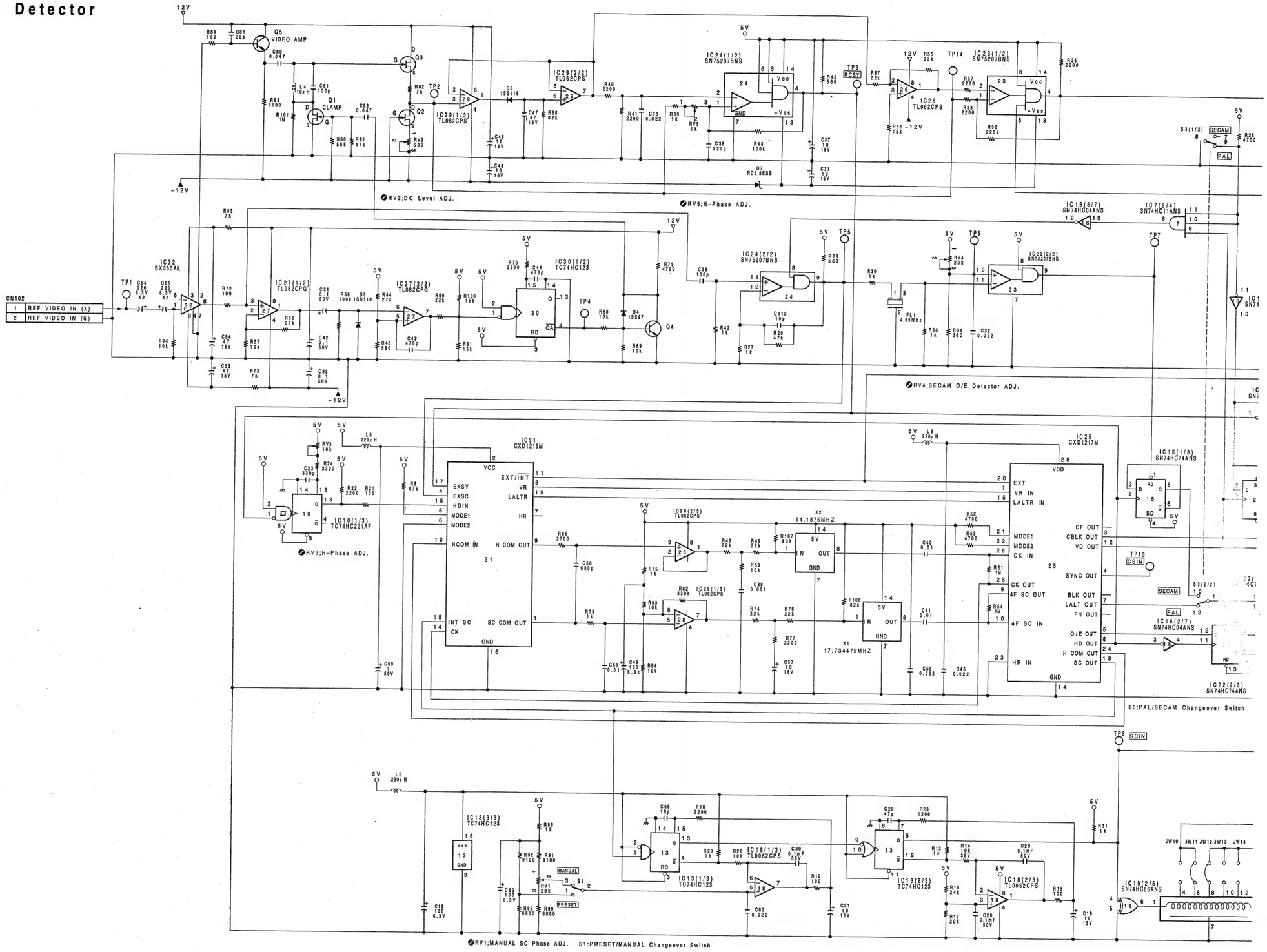
CF-46;NTSC Color Framing Detector



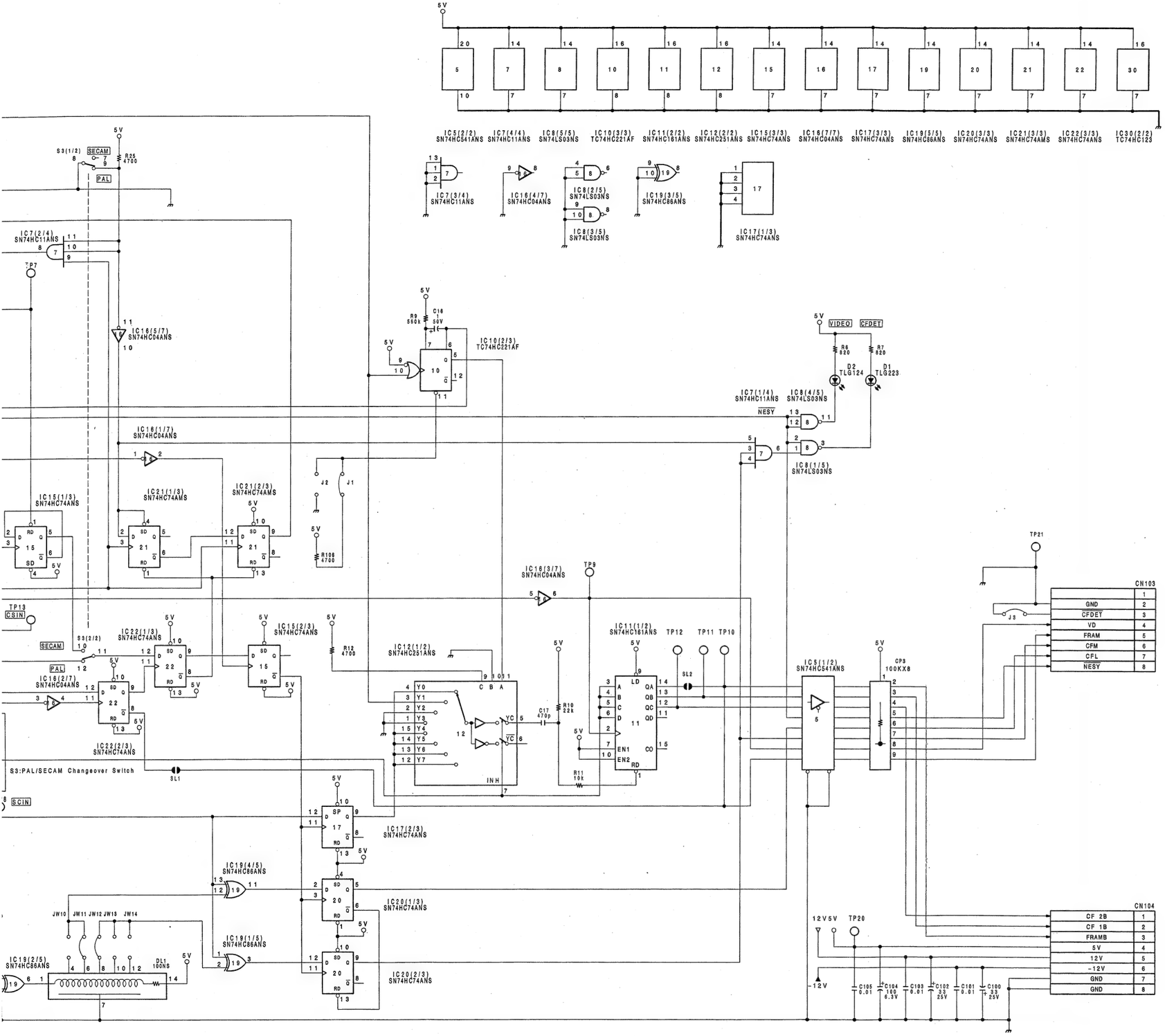
CF-46 BOARD

BOARD NO.1-647-040-11
BKE-2030

CF-47;PAL Color Framing Detector



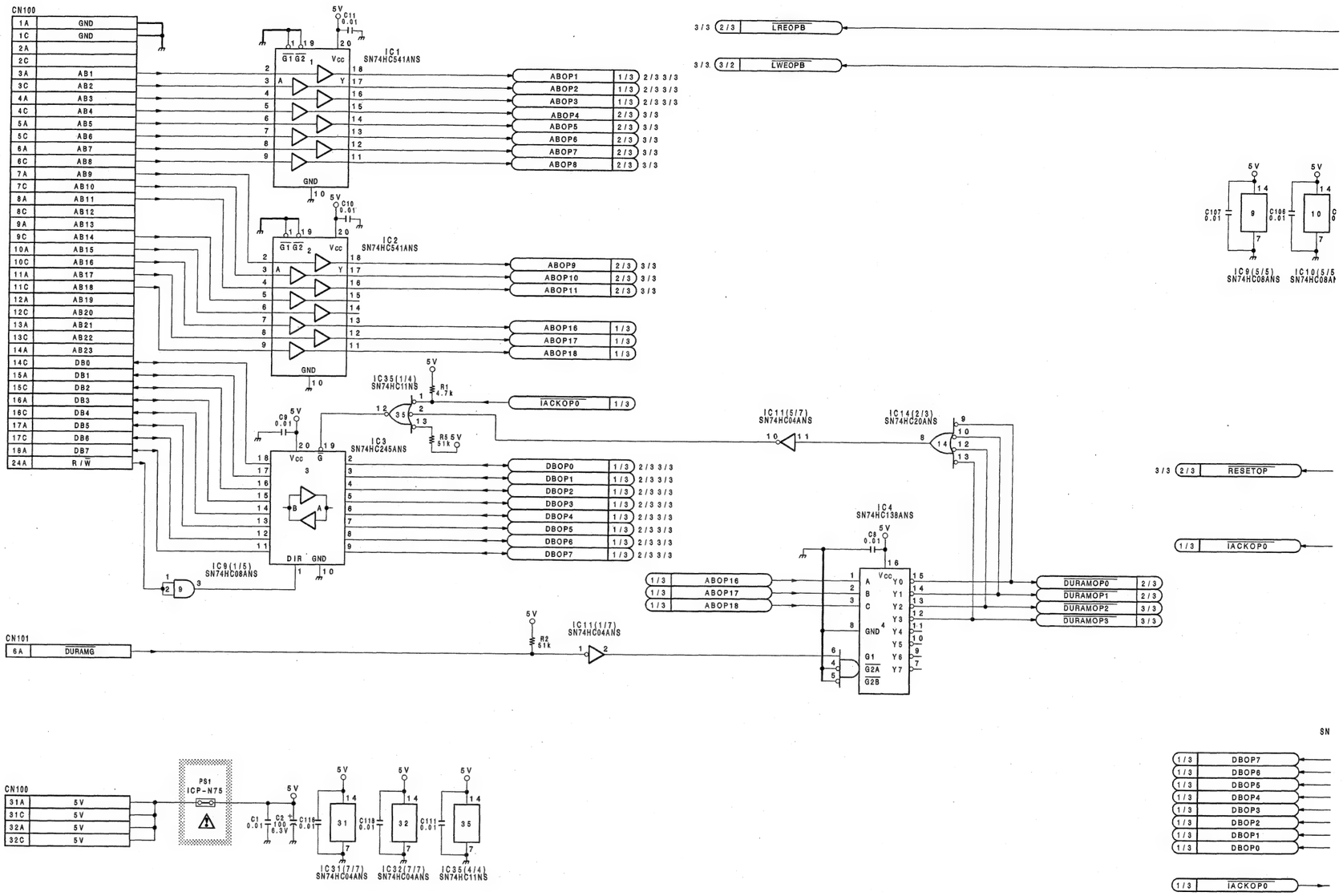
A | B | C | D | E | F | G | H

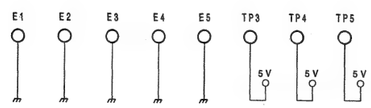


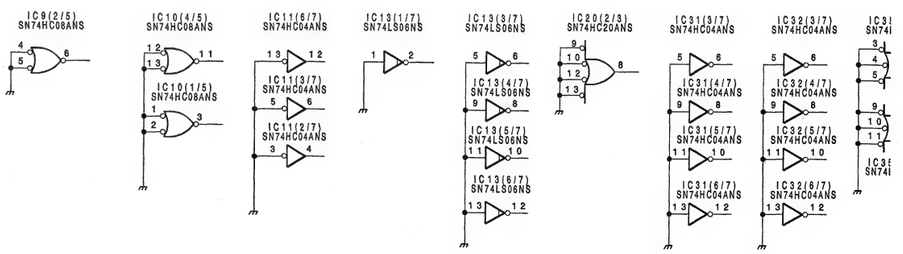
CF-47 BOARD

BOARD NO.1-647-184-11
BKE-2031

IF-402(1/3);RS422 I/F(Port E,F)







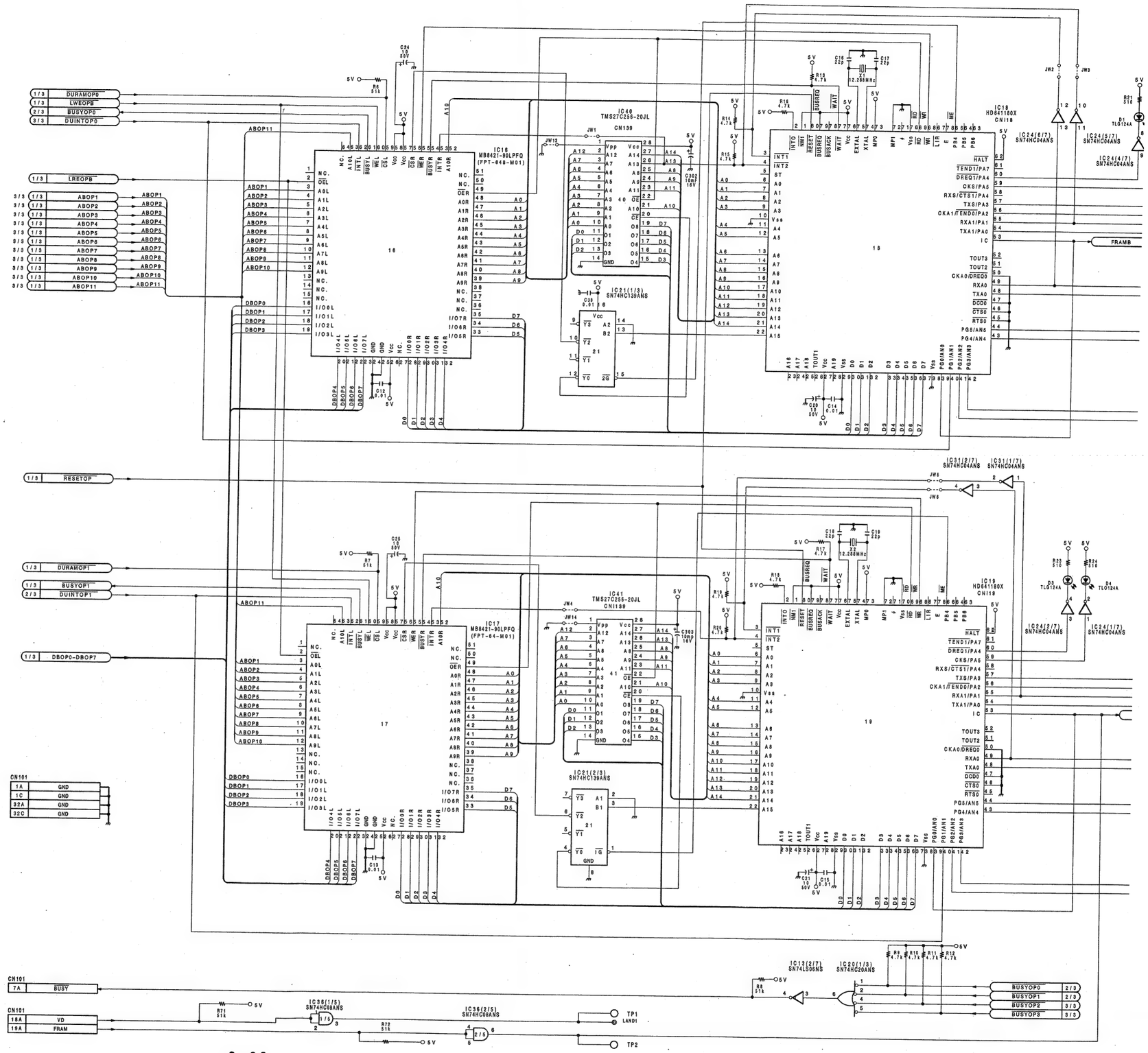
A | B | C | D | E | F | G | H

(BKE-2020)IF-402(1/3)

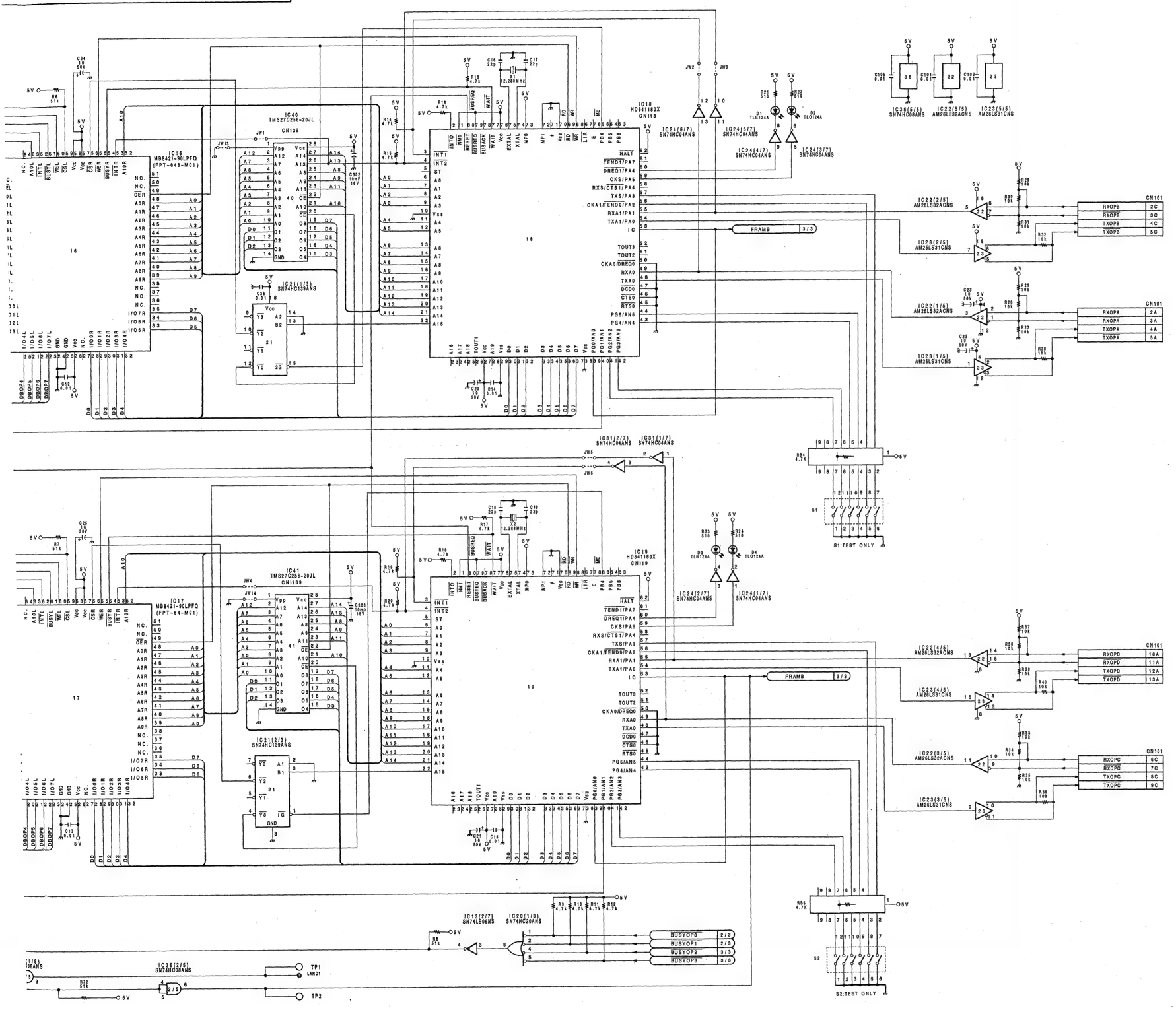
IF-402(1/3) BOARD

BOARD NO.1-647-039-11
BKE-2020

IF-402(2/3);RS422 I/F(Port G,H)



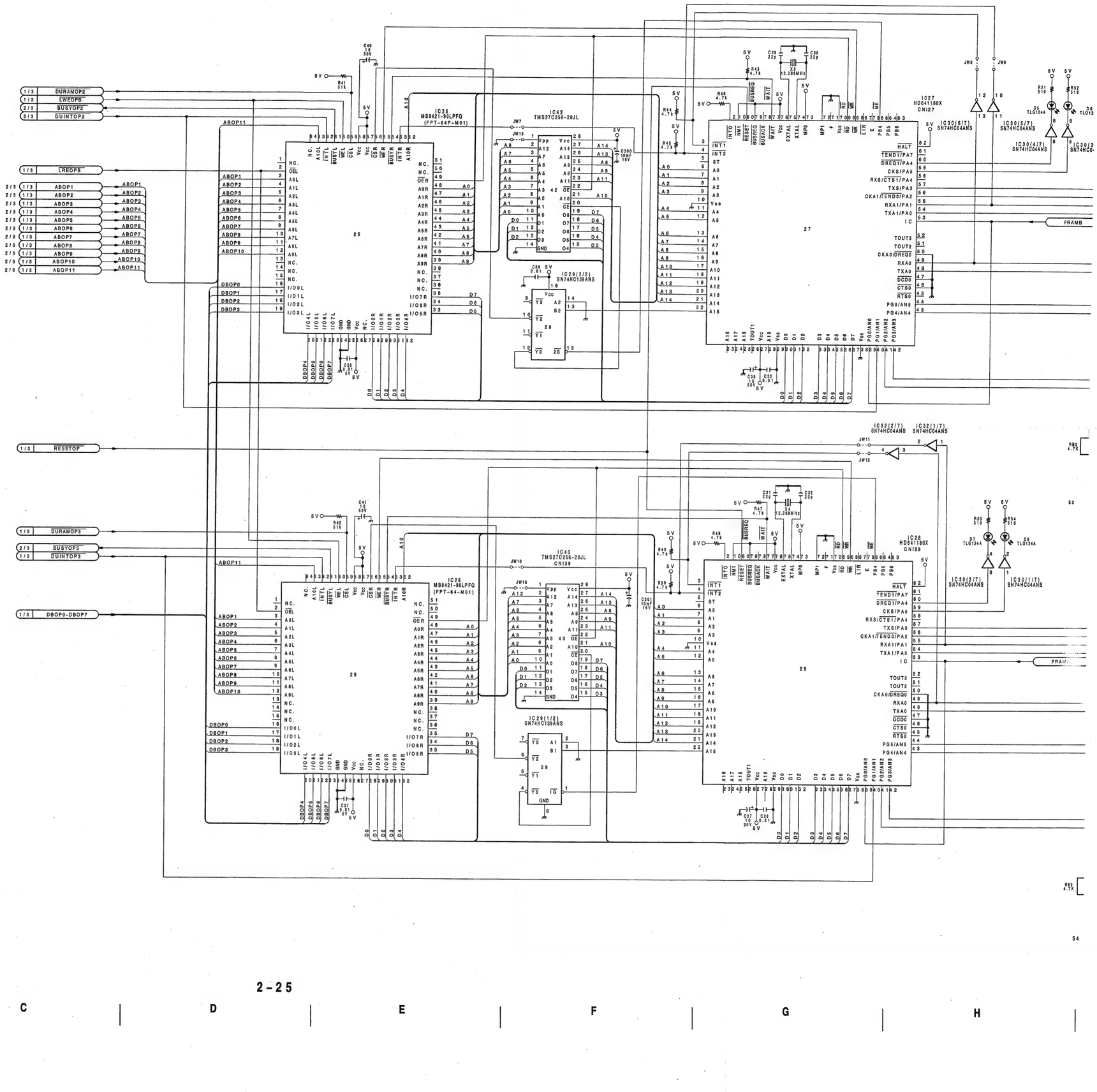
(BKE-2020)IF-402(2/3)

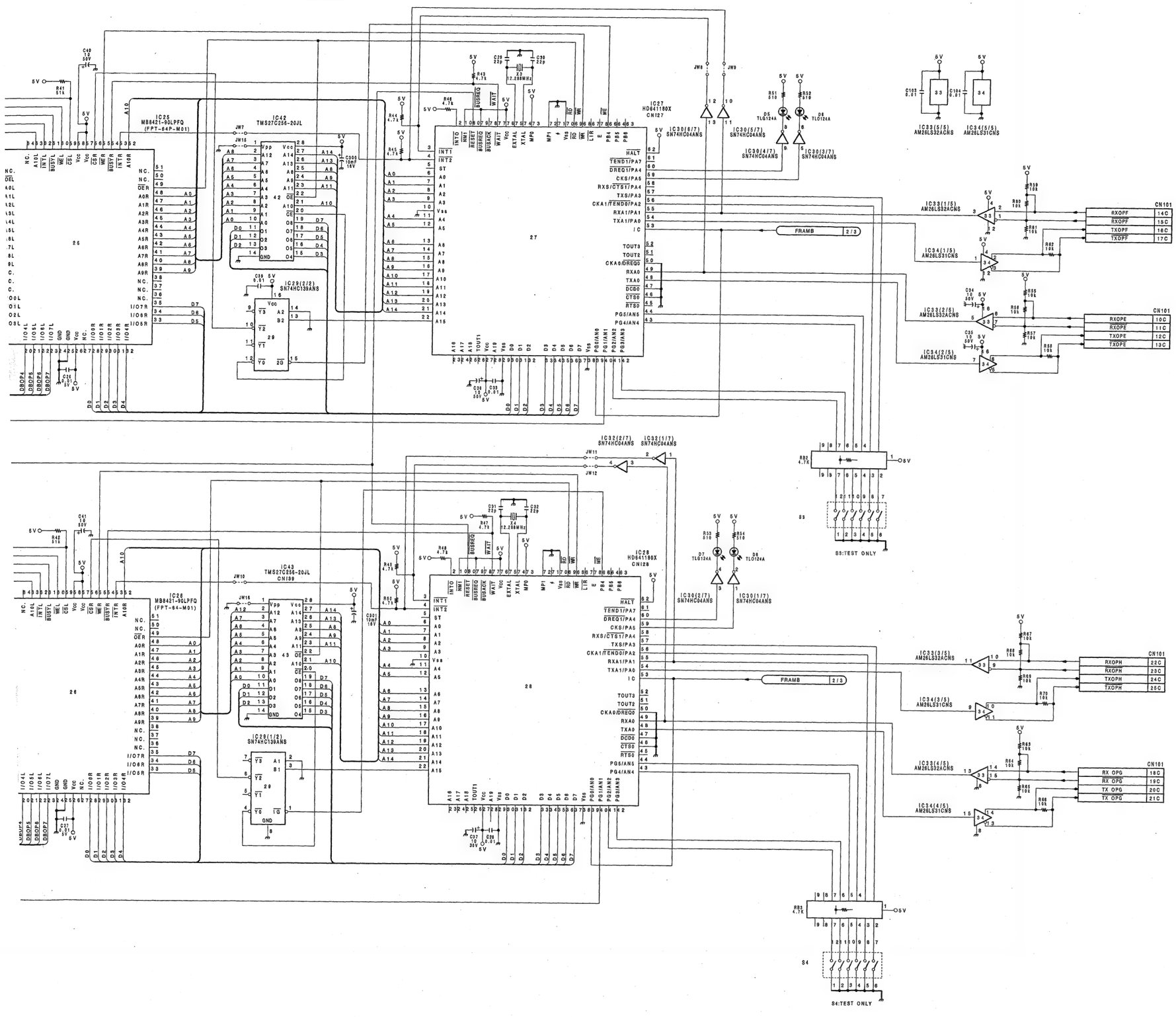


IF-402(2/3) BOARD

BOARD NO.1-647-039-11
BKE-2020

IF-402(3/3);RS422 I/F(Port I,J)

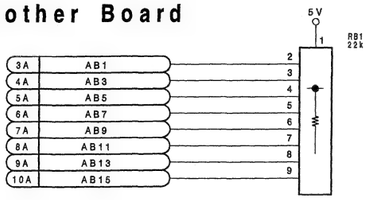


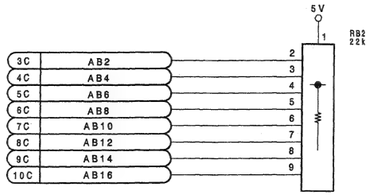


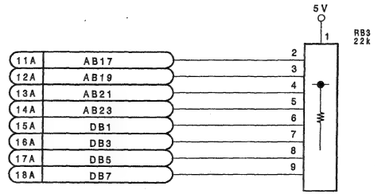
IF-402(3/3) BOARD

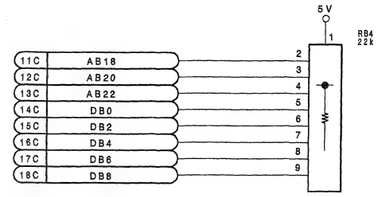
BOARD NO.1-647-039-11
BKE-2020

MB-454(1/3);Mother Board









CNC101(1/2)

1A	GND	(GND)
2A	RXOPA	CND787-24A
3A	RXOPA	CND787-25A
4A	TXOPA	CND787-26A
5A	TXOPA	CND787-27A
6A	DURAMG	CNA101-6A
7A	BUSY	CNB100-2A
8A	INT0	CNA101-8A
9A	IACK0	CNA101-9A
10A	RXOPD	CND788-6C
11A	RXOPD	CND788-7C
12A	TXOPD	CND788-8C
13A	TXOPD	CND788-9C
14A		
15A		
16A		
17A		
18A	VD	CNA101-18A
19A	FRAM	CNA101-19A
20A		
21A	LREB	CNB101-21A
22A	LWEB	CNB101-22A
23A		
24A		
25A		
26A		
27A		
28A		
29A		
30A		
31A		
32A	GND	(GND)

CNC101(2/2)

1C	GND	(GND)
2C	RXOPB	CND787-28A
3C	RXOPB	CND787-29A
4C	TXOPB	CND787-30A
5C	TXOPB	CND787-31A
6C	RXOPC	CND788-2C
7C	RXOPC	CND788-3C
8C	TXOPC	CND788-4C
9C	TXOPC	CND788-5C
10C	RXOPE	CND788-10C
11C	RXOPE	CND788-11C
12C	TXOPE	CND788-12C
13C	TXOPE	CND788-13C
14C	RXOPF	CND788-14C
15C	RXOPF	CND788-15C
16C	TXOPF	CND788-16C
17C	TXOPF	CND788-17C
18C	RXOPG	CND788-18C
19C	RXOPG	CND788-19C
20C	TXOPG	CND788-20C
21C	TXOPG	CND788-21C
22C	RXOPH	CND788-22C
23C	RXOPH	CND788-23C
24C	TXOPH	CND788-24C
25C	TXOPH	CND788-25C
26C		
27C		
28C		
29C	I/OIFOP	CNB101-29C
30C		
31C		
32C	GND	(GND)

CNB101(1/3)

1A	GND	(GND)
2A	DURAM0	CNA101-2A
3A	DURAM1	CNA101-3A
4A	DURAM2	CNA101-4A
5A	RXA	CND787-2A
6A	RXA	CND787-3A
7A	TXA	CND787-4A
8A	TXA	CND787-5A
9A	RXB	CND787-6A
10A	RXB	CND787-7A
11A	TXB	CND787-8A
12A	TXB	CND787-9A
13A	INT1	CNA101-10A
14A	I/O CS4	CNA101-14A
15A	I/O CS5	CNA101-15A
16A	IACK1	CNA101-11A
17A	MUTE2	CN788-18C
18A	VD	CNA101-18A
19A	FRAM	CNA101-19A
20A	NT/PAL	CNA101-20A
21A	LREB	CNA101-21A
22A	LWEB	CNA101-22A
23A	REFCS	CNA101-23A
24A	ODEN	CNA101-24A
25A	RXC	CND787-10A
26A	RXC	CND787-11A
27A	TXC	CND787-12A
28A	TXC	CND787-13A
29A	RXD	CND787-15A
30A	TXD	CND787-16A
31A	TXD	CND787-17A
32A	GND	(GND)

CNB101(2/3)

1B	RXD1	CNA101-26C
2B	TXD1	CNA101-27C
3B	DURAM 3	CNA101-5A
4B	INTP 7	CNA101-12A
5B	L;V1-DOUT	CND786-6A
6B	L;V1-COUT	CND786-7A
7B	L;V1-BOUT	CND786-8A
8B	L;V1-AOUT	CND786-9A
9B	L;A2-DOUT	CND786-10A
10B	L;A2-COUT	CND786-11A
11B	L;A2-BOUT	CND786-12A
12B	L;A2-AOUT	CND786-13A
13B	L;A1-DOUT	CND786-14A
14B	L;A1-COUT	CND786-15A
15B	L;A1-BOUT	CND786-16A
16B	L;A1-AOUT	CND786-17A
17B	TTLOUT 1	CND786-18A
18B	RELAY 1	CND786-19A
19B	RETURN 1	CND786-20A
20B	TTLOUT 2	CND786-21A
21B	RELAY 2	CND796-22A
22B	RETURN 2	CND786-23A
23B	TTLOUT 3	CND786-24A
24B	RELAY 3	CND786-25A
25B	RETURN 3	CND786-26A
26B	TTLOUT 4	CND786-27A
27B	RELAY 4	CND786-28A
28B	RETURN 4	CND786-29A
29B	TTLOUT 5	CND786-30A
30B	TTLOUT 6	CND786-31A
31B	TTLOUT 7	CND786-30C
32B	TTLOUT 8	CND786-31C

CNB101(3/3)

1C	GND	(GND)
2C	RXE	CND786-2C
3C	RXE	CND786-3C
4C	TXE	CND786-4C
5C	TXE	CND786-5C
6C	RXF	CND786-6C
7C	RXF	CND786-7C
8C	TXF	CND786-8C
9C	TXF	CND786-9C
10C	RTSF	CND786-10C
11C	TXDF	CND786-11C
12C	CTSF	CND786-12C
13C	RXDF	CND786-13C
14C	EXT MON 1	CND786-14C
15C	EXT MON 2	CND786-15C
16C	LED	CND786-16C
17C	MUTE 1	CND786-17C
18C	VCA-1A	CND786-19C
19C	VCA-1B	CND786-20C
20C	VCA-1C	CND786-21C
21C	VCA-1D	CND786-22C
22C	VCA-2A	CND786-23C
23C	VCA-2B	CND786-24C
24C	VCA-2C	CND786-25C
25C	VCA-2D	CND786-26C
26C	AGND	CND786-27C
27C	RXD	CND787-14A
28C	TEST	CNA101-28C
29C	I/O IFOP	CNA101-29C
30C	38.4KX16	CNA101-30C
31C		
32C	GND	(GND)

CNA101(1/3)

1A	GND	(GND)
2A	DURAM0	CNB101-2A
3A	DURAM1	CNB101-3A
4A	DURAM2	CNB101-4A
5A	DURAM3	CNB101-3B
6A	DURAMG	CNC101-6A
7A	BUSY	CNB100-2A
8A	INT0	CNC101-8A
9A	IACK0	CNC101-9A
10A	INT1	CNB101-13A
11A	IACK1	CNB101-16A
12A	INTP 7	CNB101-4B
13A		
14A	I/O CS4	CNB101-14A
15A	I/O CS5	CNB101-15A
16A		
17A		
18A	VD	CNB101-18A
19A	FRAM	CNB101-19A
20A	NT/PAL	CNB101-20A
21A	LREB	CNB101-21A
22A	LWEB	CNB101-22A
23A	REFCS	CNB101-23A
24A	ODEN	CNB101-24A
25A	RTS 2	CND781-25A
26A	TXD 2	CND781-26A
27A	RXD 2	CND781-27A
28A	RTS 0	CND781-28A
29A	TXD 0	CND781-29A
30A	CTS 0	CND781-30A
31A	RXD 0	CND781-31A
32A	GND	(GND)

CNA101(2/3)

1B		
2B		
3B		
4B		
5B	SPARE 1	CND781-5A
6B	SPARE 2	CND781-6A
7B	SPARE 3	CND781-7A
8B	SPARE 4	CND781-8A
9B	SPARE 5	CND781-9A
10B	SPARE 6	CND781-10A
11B	SPARE 7	CND781-11A
12B	SPARE 8	CND781-12A
13B	SPARE 9	CND781-13A
14B		
15B		
16B		
17B		
18B		
19B		
20B		
21B		
22B		
23B		
24B		
25B		
26B		
27B		
28B		
29B		
30B		
31B		
32B		

CNC100(1/2)

1A	GND	(GND)
2A		
3A	AB1	CNB100-3A
4A	AB3	CNB100-4A
5A	AB5	CNB100-5A
6A	AB7	CNB100-6A
7A	AB9	CNB100-7A
8A	AB11	CNB100-8A
9A	AB13	CNB100-9A
10A	AB15	CNB100-10A
11A	AB17	CNB100-11A
12A	AB19	CNB100-12A
13A	AB21	CNB100-13A
14A	AB23	CNB100-14A
15A	DB1	CNB100-15A
16A	DB3	CNB100-16A
17A	DB5	CNB100-17A
18A	DB7	CNB100-18A
19A	DB9	CNB100-19A
20A	DB11	CNB100-20A
21A	DB13	CNB100-21A
22A	DB15	CNB100-22A
23A	UDS	CNB100-23A
24A	R/W	CNB100-24A
25A	FC1	CNB100-25A
26A	BG	CNB100-26A
27A	BR	CNB100-27A
28A		
29A	RESET	CNB100-29A
30A		
31A	5V	(5V)
32A	5V	(5V)

CNC100(2/2)

1C	GND	(GND)
2C		
3C	AB2	CNB100-3C
4C	AB4	CNB100-4C
5C	AB6	CNB100-5C
6C	AB8	CNB100-6C
7C	AB10	CNB100-7C
8C	AB12	CNB100-8C
9C	AB14	CNB100-9C
10C	AB16	CNB100-10C
11C	AB18	CNB100-11C
12C	AB20	CNB100-12C
13C	AB22	CNB100-13C
14C	DB0	CNB100-14C
15C	DB2	CNB100-15C
16C	DB4	CNB100-16C
17C	DB6	CNB100-17C
18C	DB8	CNB100-18C
19C	DB10	CNB100-19C
20C	DB12	CNB100-20C
21C	DB14	CNB100-21C
22C	AS	CNB100-22C
23C	LDS	CNB100-23C
24C	FC0	CNB100-24C
25C	FC2	CNB100-25C
26C	BGACK	CNB100-26C
27C		
28C	DTACK	CNB100-28C
29C	HALT	CNB100-29C
30C		
31C	5V	(5V)
32C	5V	(5V)

CNB100(1/2)

1A	GND	(GND)
2A	BUSY	CNA101-7A
3A	AB1	CNA100-3A
4A	AB3	CNA100-4A
5A	AB5	CNA100-5A
6A	AB7	CNA100-6A
7A	AB9	CNA100-7A
8A	AB11	CNA100-8A
9A	AB13	CNA100-9A
10A	AB15	CNA100-10A
11A	AB17	CNA100-11A
12A	AB19	CNA100-12A
13A	AB21	CNA100-13A
14A	AB23	CNA100-14A
15A	DB1	CNA100-15A
16A	DB3	CNA100-16A
17A	DB5	CNA100-17A
18A	DB7	CNA100-18A
19A	DB9	CNA100-19A
20A	DB11	CNA100-20A
21A	DB13	CNA100-21A
22A	DB15	CNA100-22A
23A	UDS	CNA100-23A
24A	R/W	CNA100-24A
25A	FC1	CNA100-25A
26A	BG	CNA100-26A
27A	BR	CNA100-27A
28A		
29A	RESET	CNA100-29A
30A	-12V	(-12V)
31A	5V	(5V)
32A	5V	(5V)

CNB100(2/2)

1C	GND	(GND)
2C		
3C	AB2	CNA100-3C
4C	AB4	CNA100-4C
5C	AB6	CNA100-5C
6C	AB8	CNA100-6C
7C	AB10	CNA100-7C
8C	AB12	CNA100-8C
9C	AB14	CNA100-9C
10C	AB16	CNA100-10C
11C	AB18	CNA100-11C
12C	AB20	CNA100-12C
13C	AB22	CNA100-13C
14C	DB0	CNA100-14C
15C	DB2	CNA100-15C
16C	DB4	CNA100-16C
17C	DB6	CNA100-17C
18C	DB8	CNA100-18C
19C	DB10	CNA100-19C
20C	DB12	CNA100-20C
21C	DB14	CNA100-21C
22C	AS	CNA100-22C
23C	LDS	CNA100-23C
24C	FC0	CNA100-24C
25C	FC2	CNA100-25C
26C	BGACK	CNA100-26C
27C		
28C	DTACK	CNA100-28C
29C	HALT	CNA100-29C
30C	12V	(12V)
31C	5V	(5V)
32C	5V	(5V)

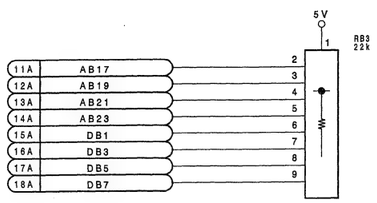
CNA100(1/2)

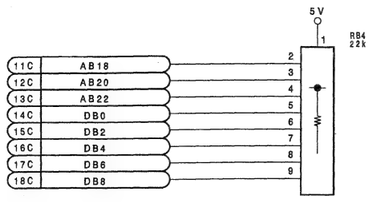
1A	GND	(GND)
2A		
3A	AB1	CNB100-3A
4A	AB3	CNB100-4A
5A	AB5	CNB100-5A
6A	AB7	CNB100-6A
7A	AB9	CNB100-7A
8A	AB11	CNB100-8A
9A	AB13	CNB100-9A
10A	AB15	CNB100-10A
11A	AB17	CNB100-11A
12A	AB19	CNB100-12A
13A	AB21	CNB100-13A
14A	AB23	CNB100-14A
15A	DB1	CNB100-15A
16A	DB3	CNB100-16A
17A	DB5	CNB100-17A
18A	DB7	CNB100-18A
19A	DB9	CNB100-19A
20A	DB11	CNB100-20A
21A	DB13	CNB100-21A
22A	DB15	CNB100-22A
23A	UDS	CNB100-23A
24A	R/W	CNB100-24A
25A	FC1	CNB100-25A
26A	BG	CNB100-26A
27A	BR	CNB100-27A
28A		
29A	RESET	CNB100-29A
30A	-12V	(-12V)
31A	5V	(5V)
32A	5V	(5V)

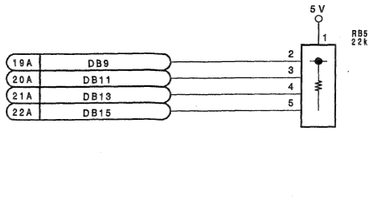
CNA100(2/2)

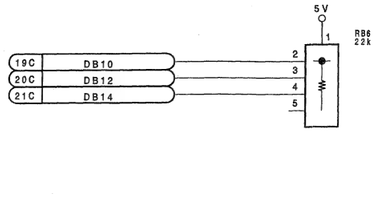
1C	GND	(GND)
2C		
3C	AB2	CNB100-3C
4C	AB4	CNB100-4C
5C	AB6	CNB100-5C
6C	AB8	CNB100-6C
7C	AB10	CNB100-7C
8C	AB12	CNB100-8C
9C	AB14	CNB100-9C
10C	AB16	CNB100-10C
11C	AB18	CNB100-11C
12C	AB20	CNB100-12C
13C	AB22	CNB100-13C
14C	DB0	CNB100-14C
15C	DB2	CNB100-15C
16C	DB4	CNB100-16C
17C	DB6	CNB100-17C
18C	DB8	CNB100-18C
19C	DB10	CNB100-19C
20C	DB12	CNB100-20C
21C	DB14	CNB100-21C
22C	AS	CNB100-22C
23C	LDS	CNB100-23C
24C	FC0	CNB100-24C
25C	FC2	CNB100-25C
26C	BGACK	CNB100-26C
27C		
28C	DTACK	CNB100-28C
29C	HALT	CNB100-29C
30C	12V	(12V)
31C	5V	(5V)
32C	5V	(5V)

MB-454(1/3)









CNB101(2/3)

RXD1	CNA101-26C
TXD1	CNA101-27C
DURAM 3	CNA101-5A
INTP 7	CNA101-12A
L;V1-DOUT	CND786-6A
L;V1-COUT	CND786-7A
L;V1-BOUT	CND786-8A
L;V1-AOUT	CND786-9A
L;A2-DOUT	CND786-10A
L;A2-COUT	CND786-11A
L;A2-BOUT	CND786-12A
L;A2-AOUT	CND786-13A
L;A1-DOUT	CND786-14A
L;A1-COUT	CND786-15A
L;A1-BOUT	CND786-16A
L;A1-AOUT	CND786-17A
TTLOUT 1	CND786-18A
RELAY 1	CND786-19A
RETURN 1	CND786-20A
TTLOUT 2	CND786-21A
RELAY 2	CND798-22A
RETURN 2	CND786-23A
TTLOUT 3	CND786-24A
RELAY 3	CND786-25A
RETURN 3	CND786-26A
TTLOUT 4	CND786-27A
RELAY 4	CND786-28A
RETURN 4	CND786-29A
TTLOUT 5	CND786-30A
TTLOUT 6	CND786-31A
TTLOUT 7	CND786-30C
TTLOUT 8	CND786-31C

CNB101(3/3)

1C	GND	(GND)
2C	RXE	CND786-2C
3C	RXE	CND786-3C
4C	TXE	CND786-4C
5C	TXE	CND786-5C
6C	RXF	CND786-6C
7C	RXF	CND786-7C
8C	TXF	CND786-8C
9C	TXF	CND786-9C
10C	RTSF	CND786-10C
11C	TXDF	CND786-11C
12C	CTSF	CND786-12C
13C	RXDF	CND786-13C
14C	EXT MON 1	CND786-14C
15C	EXT MON 2	CND786-15C
16C	LED	CND786-16C
17C	MUTE 1	CND786-17C
18C	VCA-1A	CND786-19C
19C	VCA-1B	CND786-20C
20C	VCA-1C	CND786-21C
21C	VCA-1D	CND786-22C
22C	VCA-2A	CND786-23C
23C	VCA-2B	CND786-24C
24C	VCA-2C	CND786-25C
25C	VCA-2D	CND786-26C
26C	AGND	CND786-27C
27C	RXD	CND787-14A
28C	TEST	CNA101-28C
29C	I/O IFOP	CNA101-29C
30C	38.4KX16	CNA101-30C
31C		
32C	GND	(GND)

CNA101(1/3)

1A	GND	(GND)
2A	DURAM0	CNB101-2A
3A	DURAM1	CNB101-3A
4A	DURAM2	CNB101-4A
5A	DURAM3	CNB101-3B
6A	DURAMG	CNC101-6A
7A	BUSY	CNB100-2A
8A	INT0	CNC101-8A
9A	IACK0	CNC101-9A
10A	INT1	CNB101-13A
11A	IACK1	CNB101-16A
12A	INTP 7	CNB101-4B
13A		
14A	I/O CS4	CNB101-14A
15A	I/O CS5	CNB101-15A
16A		
17A		
18A	VD	CNB101-18A
19A	FRAM	CNB101-19A
20A	NTPAL	CNB101-20A
21A	LREB	CNB101-21A
22A	LWEB	CNB101-22A
23A	REFCS	CNB101-23A
24A	ODEN	CNB101-24A
25A	RTS 2	CND781-25A
26A	TXD 2	CND781-26A
27A	RXD 2	CND781-27A
28A	RTS 0	CND781-28A
29A	TXD 0	CND781-29A
30A	CTS 0	CND781-30A
31A	RXD 0	CND781-31A
32A	GND	(GND)

CNA101(2/3)

1B		
2B		
3B		
4B		
5B	SPARE 1	CND781-5A
6B	SPARE 2	CND781-6A
7B	SPARE 3	CND781-7A
8B	SPARE 4	CND781-8A
9B	SPARE 5	CND781-9A
10B	SPARE 6	CND781-10A
11B	SPARE 7	CND781-11A
12B	SPARE 8	CND781-12A
13B	SPARE 9	CND781-13A
14B		
15B		
16B		
17B		
18B		
19B		
20B		
21B		
22B		
23B		
24B		
25B		
26B		
27B		
28B		
29B		
30B		
31B		
32B		

CNA101(3/3)

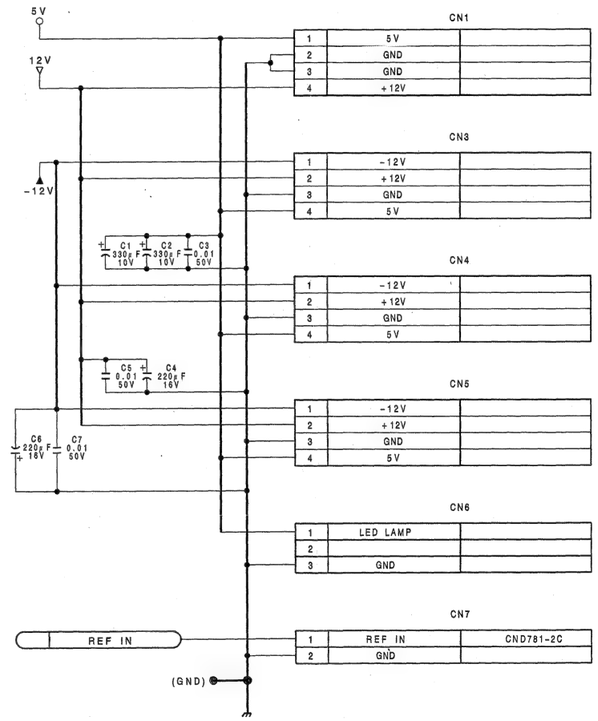
1C	GND	(GND)
2C	READY	CN2-1
3C	HED SELECT	CN2-3
4C	READ DATA	CN2-5
5C	WRITE PROTECT	CN2-7
6C	TRACK 00	CN2-9
7C	WRITE GATE	CN2-11
8C	WRITE DATA	CN2-13
9C	STEP	CN2-15
10C	DIRECTION	CN2-17
11C	MOTOR ON	CN2-19
12C	DRIVE SELECT 2	CN2-21
13C	DRIVE SELECT 1	CN2-23
14C	DRIVE SELECT 0	CN2-25
15C	INDEX	CN2-27
16C	DRIVE SELECT 3	CN2-29
17C	IN USE	CN2-31
18C	DISK CHANGE	CN2-33
19C	DISK CHANGE RESET	CN2-34
20C	RXKEY DATA	CND781-20C
21C	RXKEY DATA	CND781-21C
22C	TXKEY DATA	CND781-22C
23C	TXKEY DATA	SND781-23C
24C	DIAL PULSE	CND781-24C
25C	DIAL DIRECTION	CND781-25C
26C	RXD1	CNB101-1B
27C	TXD1	CNB101-2B
28C	TEST	CNB101-28C
29C	I/O IFOP	CNB101-29C
30C	38.4KX16	CNB101-30C
31C	CRT OUT	CND781-31C
32C	GND	(GND)

CN2(1/2)

1	READY OUT	CNA101-2C
3	HED SELECT IN	CNA101-3C
5	READ DATA IN	CNA101-4C
7	WRITE PROTECT OUT	CNA101-5C
9	TRACK 00 OUT	CNA101-6C
11	WRITE GATE IN	CNA101-7C
13	WRITE DATA IN	CNA101-8C
15	STEP IN	CNA101-9C
17	DIR IN	CNA101-10C
19	MOTOR ON IN	CNA101-11C
21	DRIVE SELECT 2 IN	CNA101-12C
23	DRIVE SELECT 1 IN	CNA101-13C
25	DRIVE SELECT 0 IN	CNA101-14C
27	INDEX OUT	CNA101-15C
29	DRIVE SELECT 3 IN	CNA101-16C
31	IN USE ON	CNA101-17C
33	CHANGE	CNA101-18C

CN2(2/2)

2	GND	(GND)
4	GND	(GND)
6	GND	(GND)
8	GND	(GND)
10	GND	(GND)
12	GND	(GND)
14	GND	(GND)
16	GND	(GND)
18	GND	(GND)
20	GND	(GND)
22	GND	(GND)
24	GND	(GND)
26	GND	(GND)
28	GND	(GND)
30	GND	(GND)
32	GND	(GND)
34	CHANGE RESET	CNA101-19C



CNB100(2/2)

GND	(GND)
AB2	CNA100-3C
AB4	CNA100-4C
AB6	CNA100-5C
AB8	CNA100-6C
AB10	CNA100-7C
AB12	CNA100-8C
AB14	CNA100-9C
AB16	CNA100-10C
AB18	CNA100-11C
AB20	CNA100-12C
AB22	CNA100-13C
DB0	CNA100-14C
DB2	CNA100-15C
DB4	CNA100-16C
DB6	CNA100-17C
DB8	CNA100-18C
DB10	CNA100-19C
DB12	CNA100-20C
DB14	CNA100-21C
AS	CNA100-22C
LDS	CNA100-23C
FC0	CNA100-24C
FC2	CNA100-25C
BGACK	CNA100-26C
DTACK	CNA100-28C
HALT	CNA100-29C
12V	(12V)
5V	(5V)
5V	(5V)

CNA100(1/2)

1A	GND	(GND)
2A		
3A	AB1	CNB100-3A
4A	AB3	CNB100-4A
5A	AB5	CNB100-5A
6A	AB7	CNB100-6A
7A	AB9	CNB100-7A
8A	AB11	CNB100-8A
9A	AB13	CNB100-9A
10A	AB15	CNB100-10A
11A	AB17	CNB100-11A
12A	AB19	CNB100-12A
13A	AB21	CNB100-13A
14A	AB23	CNB100-14A
15A	DB1	CNB100-15A
16A	DB3	CNB100-16A
17A	DB5	CNB100-17A
18A	DB7	CNB100-18A
19A	DB9	CNB100-19A
20A	DB11	CNB100-20A
21A	DB13	CNB100-21A
22A	DB15	CNB100-22A
23A	UDS	CNB100-23A
24A	R/W	CNB100-24A
25A	FC1	CNB100-25A
26A	BG	CNB100-26A
27A	BR	CNB100-27A
28A		
29A	RESET	CNB100-29A
30A	-12V	(-12V)
31A	5V	(5V)
32A	5V	(5V)

CNA100(2/2)

1C	GND	(GND)
2C		
3C	AB2	CNB100-3C
4C	AB4	CNB100-4C
5C	AB6	CNB100-5C
6C	AB8	CNB100-6C
7C	AB10	CNB100-7C
8C	AB12	CNB100-8C
9C	AB14	CNB100-9C
10C	AB16	CNB100-10C
11C	AB18	CNB100-11C
12C	AB20	CNB100-12C
13C	AB22	CNB100-13C
14C	DB0	CNB100-14C
15C	DB2	CNB100-15C
16C	DB4	CNB100-16C
17C	DB6	CNB100-17C
18C	DB8	CNB100-18C
19C	DB10	CNB100-19C
20C	DB12	CNB100-20C
21C	DB14	CNB100-21C
22C	AS	CNB100-22C
23C	LDS	CNB100-23C
24C	FC0	CNB100-24C
25C	FC2	CNB100-25C
26C	BGACK	CNB100-26C
27C		
28C	DTACK	CNB100-28C
29C	HALT	CNB100-29C
30C	12V	(12V)
31C	5V	(5V)
32C	5V	(5V)

MB-454(1/3) BOARD

BOARD NO.1-647-045-11
BVE-2000

MB-454(2/3);Mother Board

CND788(1/2)

1A	GND	(GND)
2A		
3A		
4A		
5A		
6A		
7A		
8A		
9A		
10A		
11A		
12A		
13A		
14A		
15A		
16A		
17A		
18A		
19A		
20A		
21A		
22A		
23A		
24A		
25A		
26A		
27A		
28A		
29A		
30A		
31A		
32A	GND	(GND)

CND788(2/2)

1C	GND	(GND)
2C	RXOPC	CNC101-6C
3C	$\overline{\text{RXOPC}}$	CNC101-7C
4C	TXOPC	CNC101-8C
5C	$\overline{\text{TXOPC}}$	CNC101-9C
6C	RXOPD	CNC101-10A
7C	$\overline{\text{RXOPD}}$	CNC101-11A
8C	TXOPD	CNC101-12A
9C	$\overline{\text{TXOPD}}$	CNC101-13A
10C	RXOPE	CNC101-10C
11C	$\overline{\text{RXOPE}}$	CNC101-11C
12C	TXOPE	CNC101-12C
13C	$\overline{\text{TXOPE}}$	CNC101-13C
14C	RXOPF	CNC101-14C
15C	$\overline{\text{RXOPF}}$	CNC101-15C
16C	TXOPF	CNC101-16C
17C	$\overline{\text{TXOPF}}$	CNC101-17C
18C	RXOPG	CNC101-18C
19C	$\overline{\text{RXOPG}}$	CNC101-19C
20C	TXOPG	CNC101-20C
21C	$\overline{\text{TXOPG}}$	CNC101-21C
22C	RXOPH	CNC101-22C
23C	$\overline{\text{RXOPH}}$	CNC101-23C
24C	TXOPH	CNC101-24C
25C	$\overline{\text{TXOPH}}$	CNC101-25C
26C		
27C		
28C		
29C		
30C		
31C		
32C	$\overline{\text{GND}}$	(GND)

CND787(1/2)

1A	GND	(GND)
2A	RXA	CNB101-5A
3A	$\overline{\text{RXA}}$	CNB101-6A
4A	TXA	CNB101-7A
5A	$\overline{\text{TXA}}$	CNB101-8A
6A	RXB	CNB101-9A
7A	$\overline{\text{RXB}}$	CNB101-10A
8A	TXB	CNB101-11A
9A	$\overline{\text{TXB}}$	CNB101-12A
10A	RXC	CNB101-25A
11A	$\overline{\text{RXC}}$	CNB101-26A
12A	TXC	CNB101-27A
13A	$\overline{\text{TXC}}$	CNB101-28A
14A	RXD	CNB101-27C
15A	$\overline{\text{RXD}}$	CNB101-29A
16A	TXD	CNB101-30A
17A	$\overline{\text{TXD}}$	CNB101-31A
18A		
19A		
20A		
21A		
22A		
23A		
24A	RXOPA	CNC101-2A
25A	$\overline{\text{RXOPA}}$	CNC101-3A
26A	TXOPA	CNC101-4A
27A	$\overline{\text{TXOPA}}$	CNC101-5A
28A	RXOPB	CNC101-2C
29A	$\overline{\text{RXOPB}}$	CNC101-3C
30A	TXOPB	CNC101-4C
31A	$\overline{\text{TXOPB}}$	CNC101-5C
32A	GND	(GND)

CND787(2/2)

1C	GND	(GND)
2C		
3C		
4C		
5C		
6C		
7C		
8C		
9C		
10C		
11C		
12C		
13C		
14C		
15C		
16C		
17C		
18C		
19C		
20C		
21C		
22C		
23C		
24C		
25C		
26C		
27C		
28C		
29C		
30C		
31C		
32C	GND	(GND)

CND786(1/2)

1A	GND	(GND)
2A		
3A		
4A		
5A		
6A	L;V1-DOUT	CNB101-5B
7A	L;V1-COUT	CNB101-6B
8A	L;V1-BOUT	CNB101-7B
9A	L;V1-AOUT	CNB101-8B
10A	L;A2-DOUT	CNB101-9B
11A	L;A2-COUT	CNB101-10B
12A	L;A2-BOUT	CNB101-11B
13A	L;A2-AOUT	CNB101-12B
14A	L;A1-DOUT	CNB101-13B
15A	L;A1-COUT	CNB101-14B
16A	L;A1-BOUT	CNB101-15B
17A	L;A1-AOUT	CNB101-16B
18A	TTL OUT 1	CNB101-17B
19A	RELAY 1	CNB101-18B
20A	RETURN 1	CNB101-19B
21A	TTL OUT 2	CNB101-20B
22A	RELAY 2	CNB101-21B
23A	RETURN 2	CNB101-22B
24A	TTL OUT 3	CNB101-23B
25A	RELAY-3	CNB101-24B
26A	RETURN 3	CNB101-25B
27A	TTL OUT 4	CNB101-26B
28A	RELAY-4	CNB101-27B
29A	RETURN 4	CNB101-28B
30A	TTL OUT 5	CNB101-29B
31A	TTL OUT 6	CNB101-30B
32A	GND	(GND)

CND786(2/2)

1C	GND
2C	RXE
3C	$\overline{\text{RXE}}$
4C	TXE
5C	$\overline{\text{TXE}}$
6C	RXF
7C	$\overline{\text{RXF}}$
8C	TXF
9C	$\overline{\text{TXF}}$
10C	$\overline{\text{RTSF}}$
11C	TXDF
12C	$\overline{\text{CTSF}}$
13C	RXDF
14C	EXT MON 1
15C	EXT MON 2
16C	LED
17C	MUTE 1
18C	MUTE 2
19C	VCA-1A
20C	VCA-1B
21C	VCA-1C
22C	VCA-1D
23C	VCA-2A
24C	VCA-2B
25C	VCA-2C
26C	VCA-2D
27C	AGND
28C	
29C	
30C	TTL OUT 7
31C	TTL OUT 8
32C	GND

A B C D E F G H

MB-454(2/3)

GND	(GND)
RXA	CNB101-5A
$\overline{\text{RXA}}$	CNB101-6A
TXA	CNB101-7A
$\overline{\text{TXA}}$	CNB101-8A
RXB	CNB101-9A
$\overline{\text{RXB}}$	CNB101-10A
TXB	CNB101-11A
$\overline{\text{TXB}}$	CNB101-12A
RXC	CNB101-25A
$\overline{\text{RXC}}$	CNB101-26A
TXC	CNB101-27A
$\overline{\text{TXC}}$	CNB101-28A
RXD	CNB101-27C
$\overline{\text{RXD}}$	CNB101-29A
TXD	CNB101-30A
$\overline{\text{TXD}}$	CNB101-31A
XOPA	CNC101-2A
$\overline{\text{XOPA}}$	CNC101-3A
XOPA	CNC101-4A
$\overline{\text{XOPA}}$	CNC101-5A
XOPB	CNC101-2C
$\overline{\text{XOPB}}$	CNC101-3C
XOPB	CNC101-4C
$\overline{\text{XOPB}}$	CNC101-5C
GND	(GND)

CND787(2/2)

1C	GND	(GND)
2C		
3C		
4C		
5C		
6C		
7C		
8C		
9C		
10C		
11C		
12C		
13C		
14C		
15C		
16C		
17C		
18C		
19C		
20C		
21C		
22C		
23C		
24C		
25C		
26C		
27C		
28C		
29C		
30C		
31C		
32C	GND	(GND)

CND786(1/2)

1A	GND	(GND)
2A		
3A		
4A		
5A		
6A	L;V1-DOUT	CNB101-5B
7A	L;V1-COUT	CNB101-6B
8A	L;V1-BOUT	CNB101-7B
9A	L;V1-AOUT	CNB101-8B
10A	L;A2-DOUT	CNB101-9B
11A	L;A2-COUT	CNB101-10B
12A	L;A2-BOUT	CNB101-11B
13A	L;A2-AOUT	CNB101-12B
14A	L;A1-DOUT	CNB101-13B
15A	L;A1-COUT	CNB101-14B
16A	L;A1-BOUT	CNB101-15B
17A	L;A1-AOUT	CNB101-16B
18A	TTL OUT 1	CNB101-17B
19A	RELAY 1	CNB101-18B
20A	RETURN 1	CNB101-19B
21A	TTL OUT 2	CNB101-20B
22A	RELAY 2	CNB101-21B
23A	RETURN 2	CNB101-22B
24A	TTL OUT 3	CNB101-23B
25A	RELAY-3	CNB101-24B
26A	RETURN 3	CNB101-25B
27A	TTL OUT 4	CNB101-26B
28A	RELAY-4	CNB101-27B
29A	RETURN 4	CNB101-28B
30A	TTL OUT 5	CNB101-29B
31A	TTL OUT 6	CNB101-30B
32A	GND	(GND)

CND786(2/2)

1C	GND	(GND)
2C	RXE	CNB101-2C
3C	$\overline{\text{RXE}}$	CNB101-3C
4C	TXE	CNB101-4C
5C	$\overline{\text{TXE}}$	CNB101-5C
6C	RXF	CNB101-6C
7C	$\overline{\text{RXF}}$	CNB101-7C
8C	TXF	CNB101-8C
9C	$\overline{\text{TXF}}$	CNB101-9C
10C	$\overline{\text{RTSF}}$	CNB101-10C
11C	TXDF	CNB101-11C
12C	$\overline{\text{CTSF}}$	CNB101-12C
13C	RXDF	CNB101-13C
14C	EXT MON 1	CNB101-14C
15C	EXT MON 2	CNB101-15C
16C	LED	CNB101-16C
17C	MUTE 1	CNB101-17C
18C	MUTE 2	CNB101-17A
19C	VCA-1A	CNB101-18C
20C	VCA-1B	CNB101-19C
21C	VCA-1C	CNB101-20C
22C	VCA-1D	CNB101-21C
23C	VCA-2A	CNB101-22C
24C	VCA-2B	CNB101-23C
25C	VCA-2C	CNB101-24C
26C	VCA-2D	CNB101-25C
27C	AGND	CNB101-26C
28C		
29C		
30C	TTL OUT 7	CNB101-31B
31C	TTL OUT 8	CNB101-32B
32C	GND	(GND)

CND781(1/2)

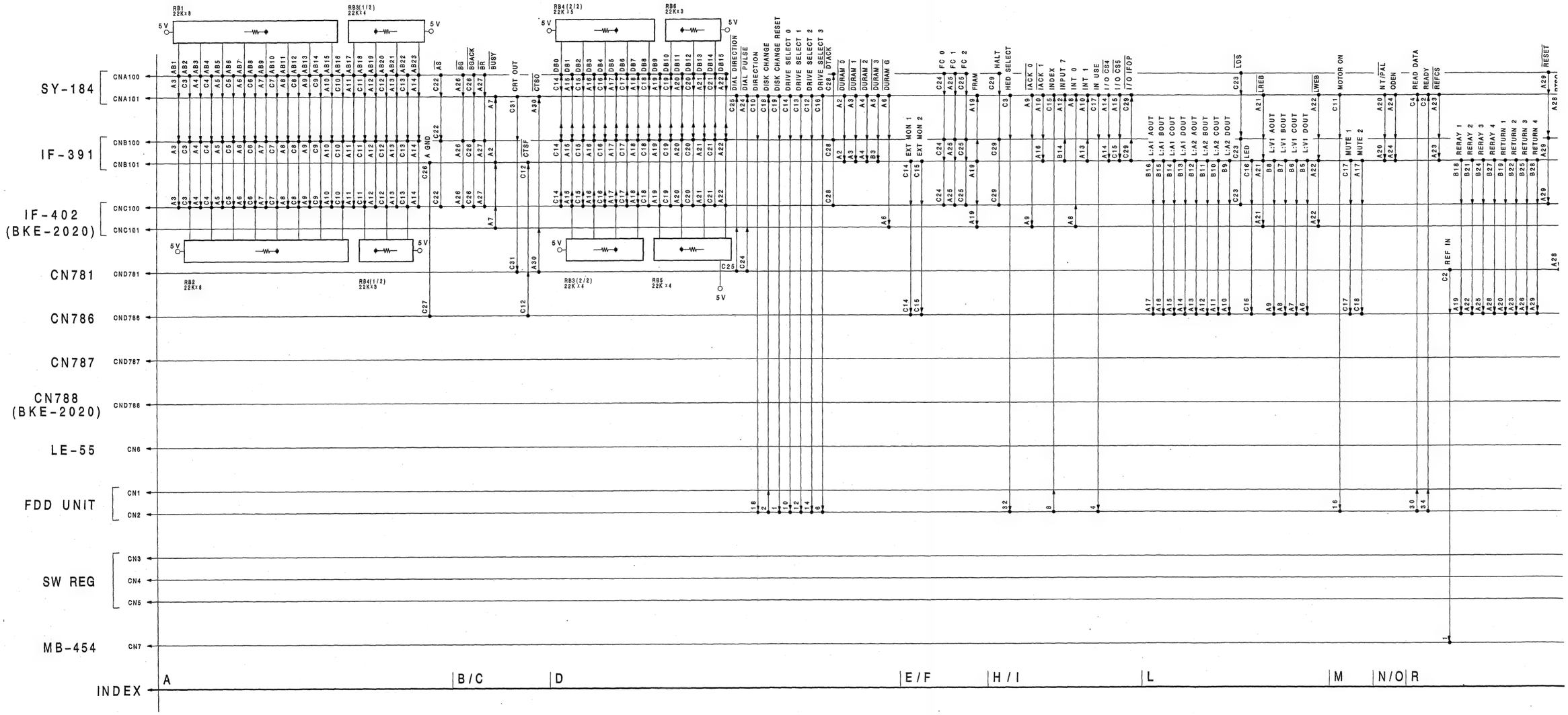
1A	GND	(GND)
2A		
3A		
4A		
5A	SPARE1	CNA101-5B
6A	SPARE2	CNA101-6B
7A	SPARE3	CNA101-7B
8A	SPARE4	CNA101-8B
9A	SPARE5	CNA101-9B
10A	SPARE6	CNA101-10B
11A	SPARE7	CNA101-11B
12A	SPARE8	CNA101-12B
13A	SPARE9	CNA101-13B
14A		
15A		
16A		
17A		
18A	VD	CNA101-18A
19A	FRAM	CNA101-19A
20A		
21A		
22A		
23A		
24A	($\overline{\text{CTS2}}$)	
25A	($\overline{\text{RTS2}}$)	CNA101-25A
26A	TXD2	CNA101-26A
27A	$\overline{\text{RXD2}}$	CNA101-27A
28A	$\overline{\text{RTS0}}$	CNA101-28A
29A	TXD0	CNA101-29A
30A	$\overline{\text{CTS0}}$	CNA101-30A
31A	RXD0	CNA101-31A
32A	GND	(GND)

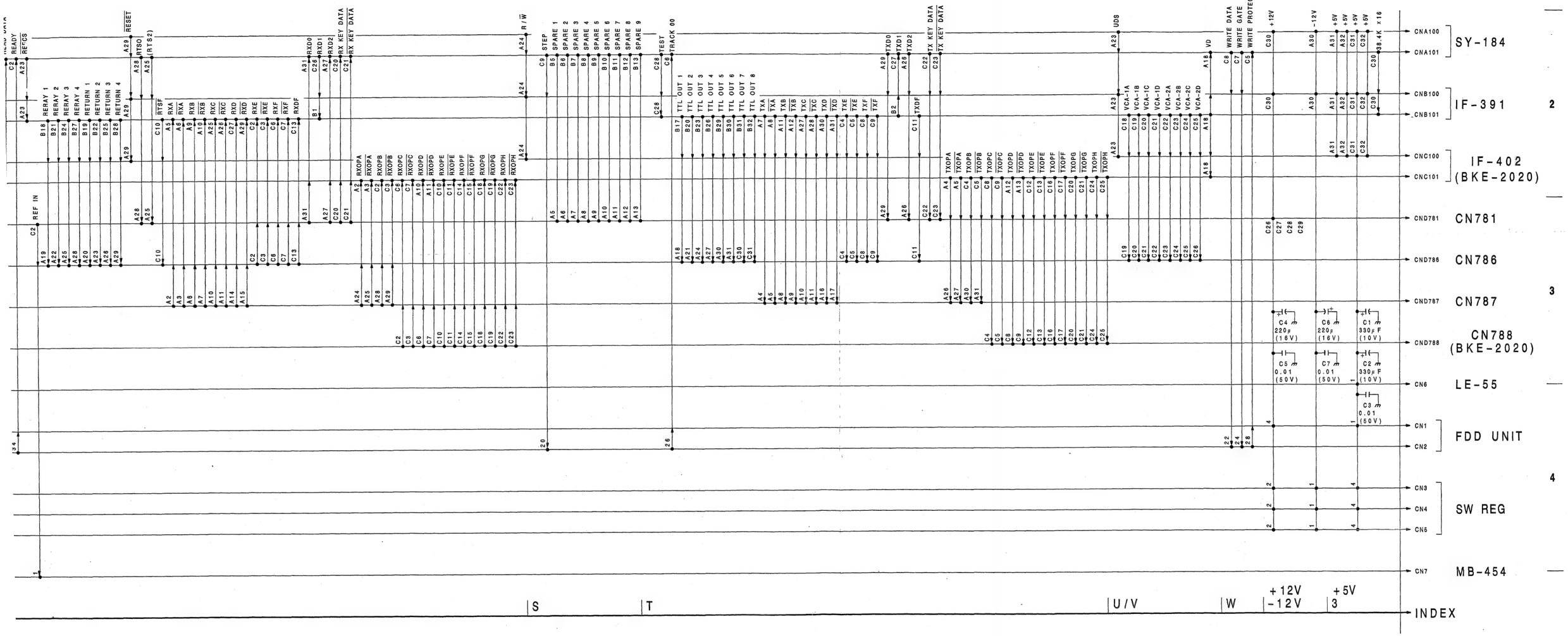
CND781(2/2)

1C	GND	(GND)
2C	REF IN	CN7-1
3C		
4C		
5C		
6C		
7C		
8C		
9C		
10C		
11C		
12C		
13C		
14C		
15C		
16C		
17C		
18C		
19C		
20C	RX KEY DATA	CNA101-20C
21C	$\overline{\text{RX KEY DATA}}$	CNA101-21C
22C	TX KEY DATA	CNA101-22C
23C	$\overline{\text{TX KEY DATA}}$	CNA101-23C
24C	$\overline{\text{DIAL PULSE}}$	CNA101-24C
25C	$\overline{\text{DIAL DIRECTION}}$	CNA101-25C
26C	12V	(+12V)
27C	12V	(+12V)
28C	12V	(+12V)
29C	12V	(+12V)
30C		
31C	CRT OUT	CNA101-31C
32C	GND	(GND)

MB-454(2/3) BOARD
BOARD NO.1-647-045-11
BVE-2000

MB-454(3/3);Mother Board

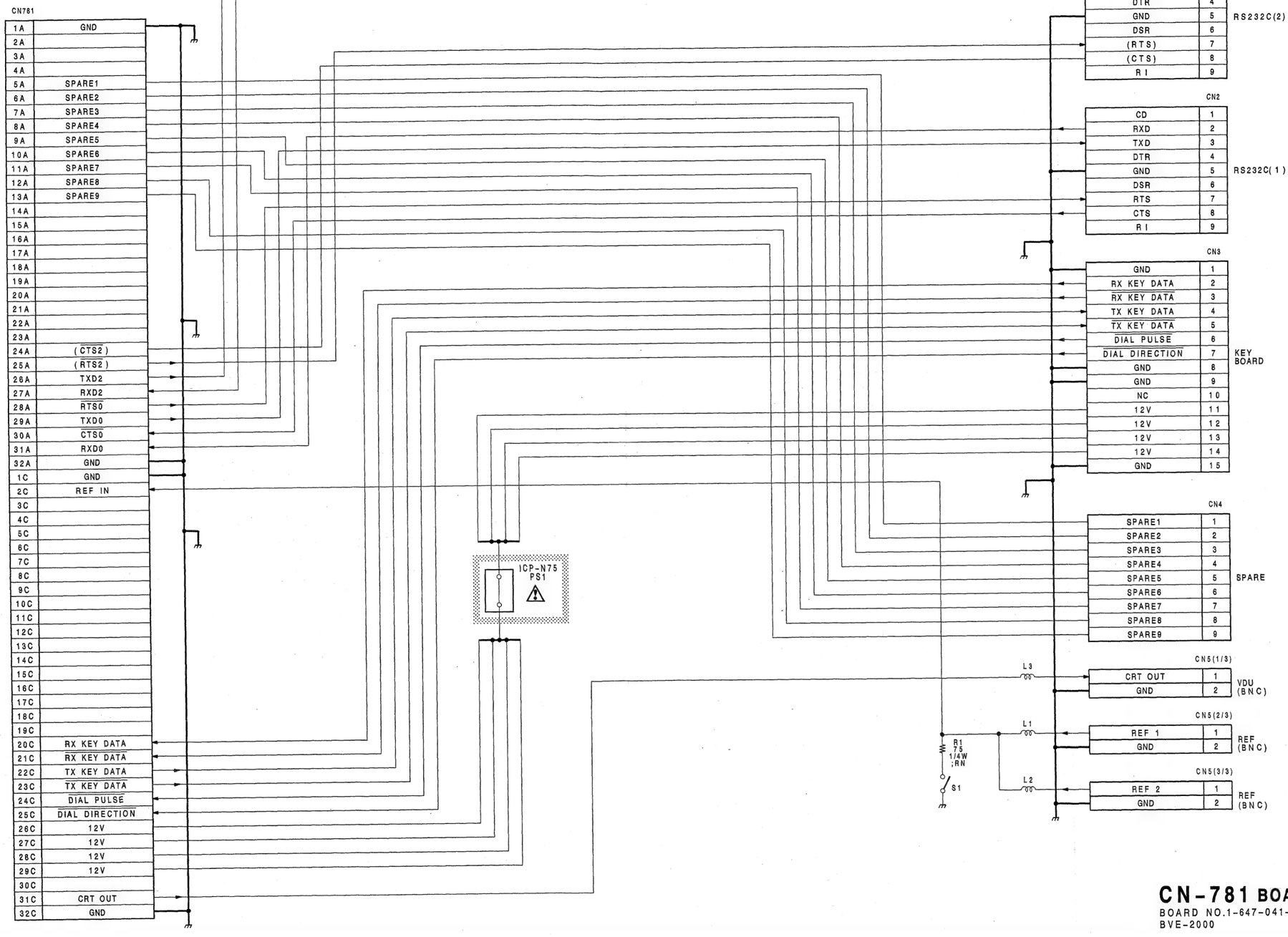




MB-454(3/3) BOARD

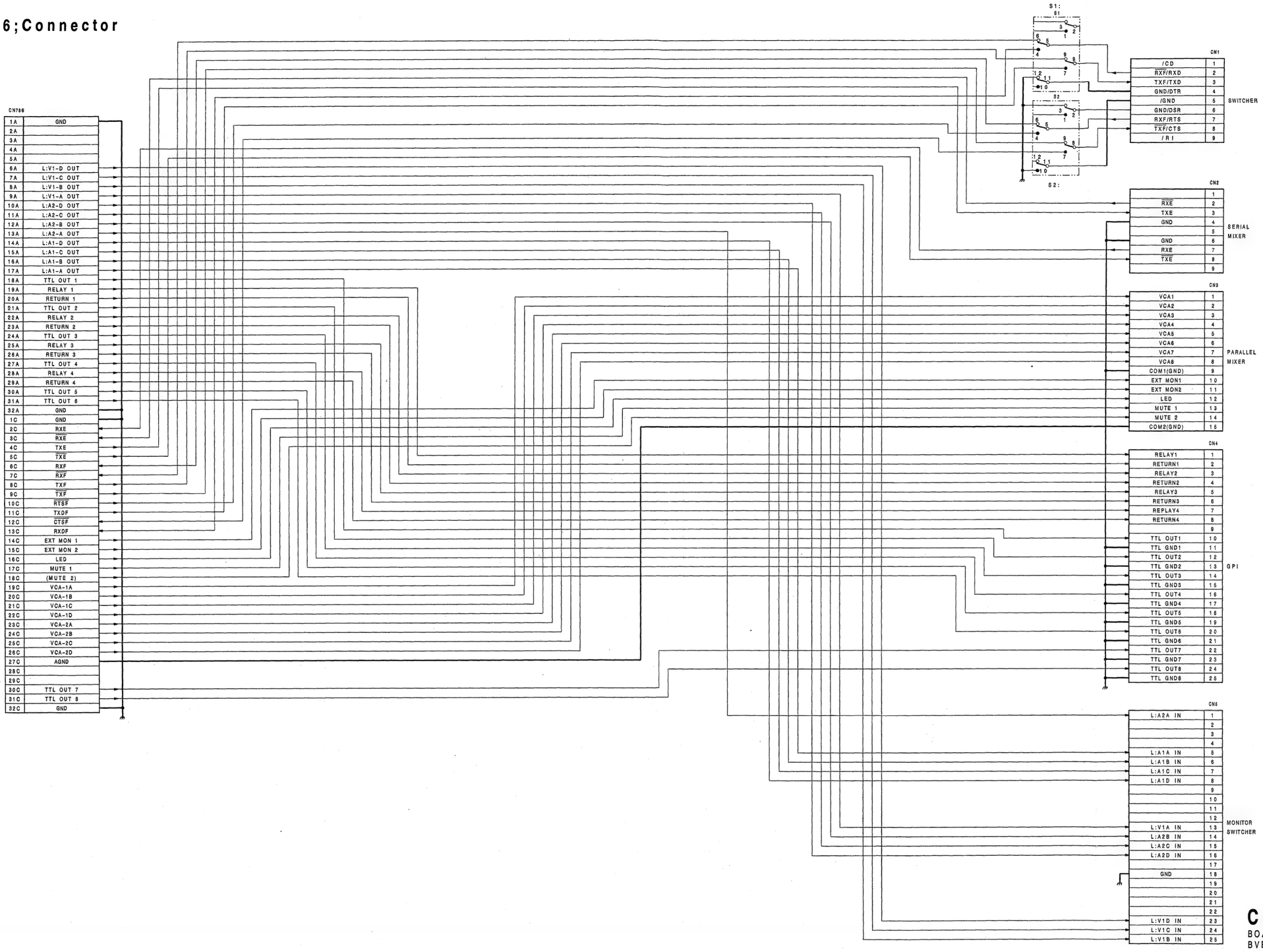
BOARD NO.1-647-045-11
BVE-2000

CN-781;Connector



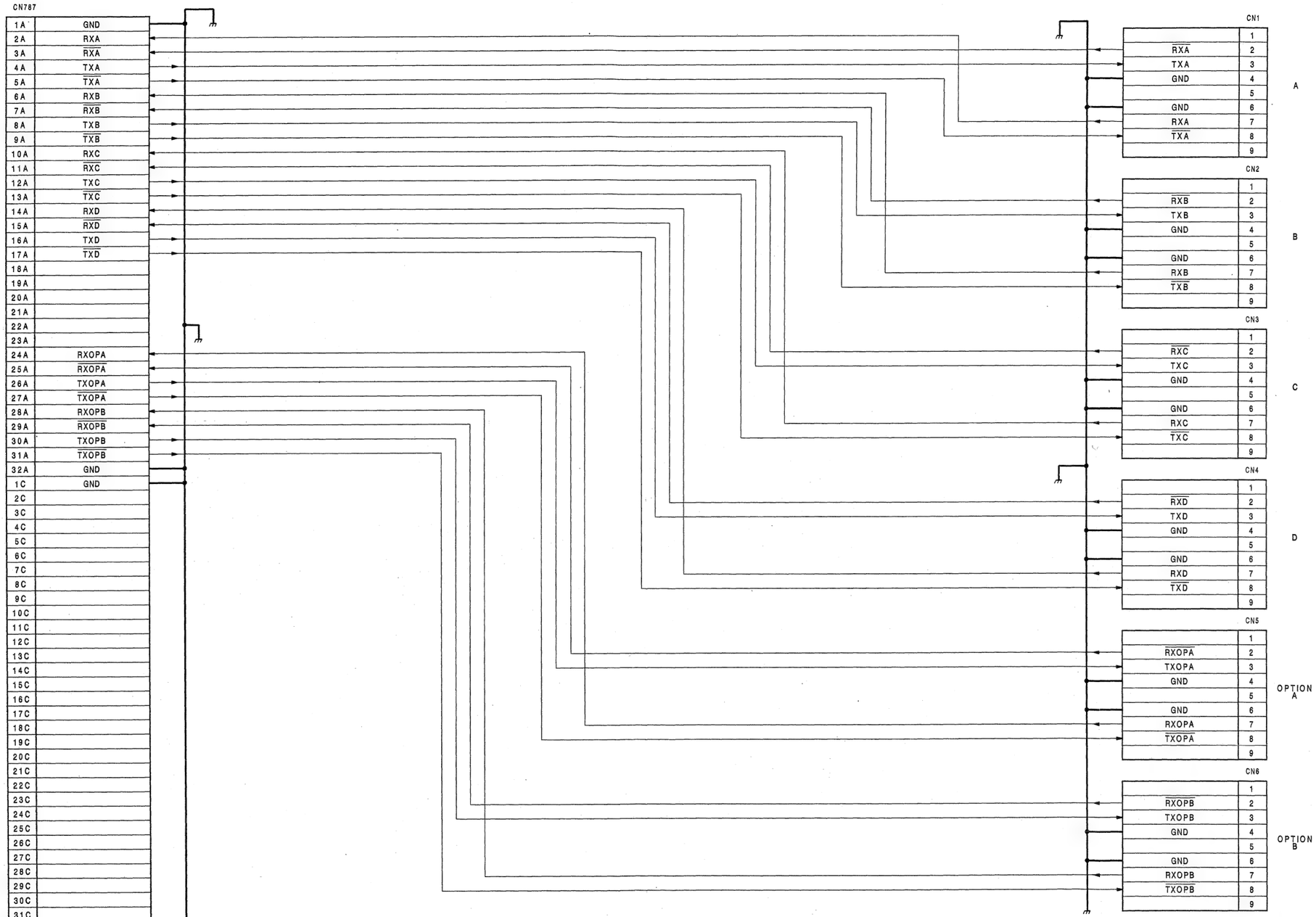
CN-781 BOARD
BOARD NO.1-647-041-11
BVE-2000

CN-786;Connector



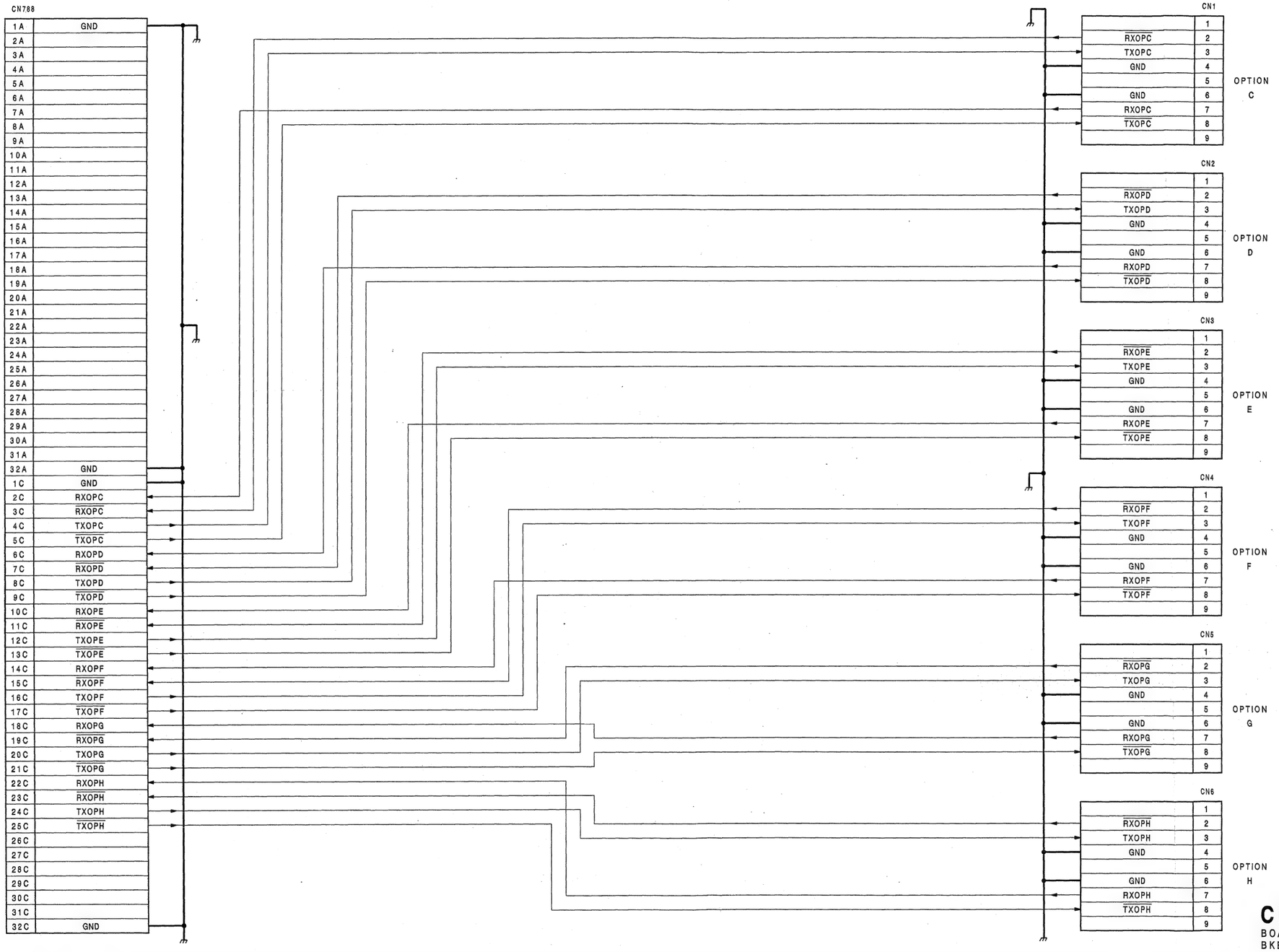
CN-786 BOARD
BOARD NO.1-647-042-11
BVE-2000

CN-787;Connector



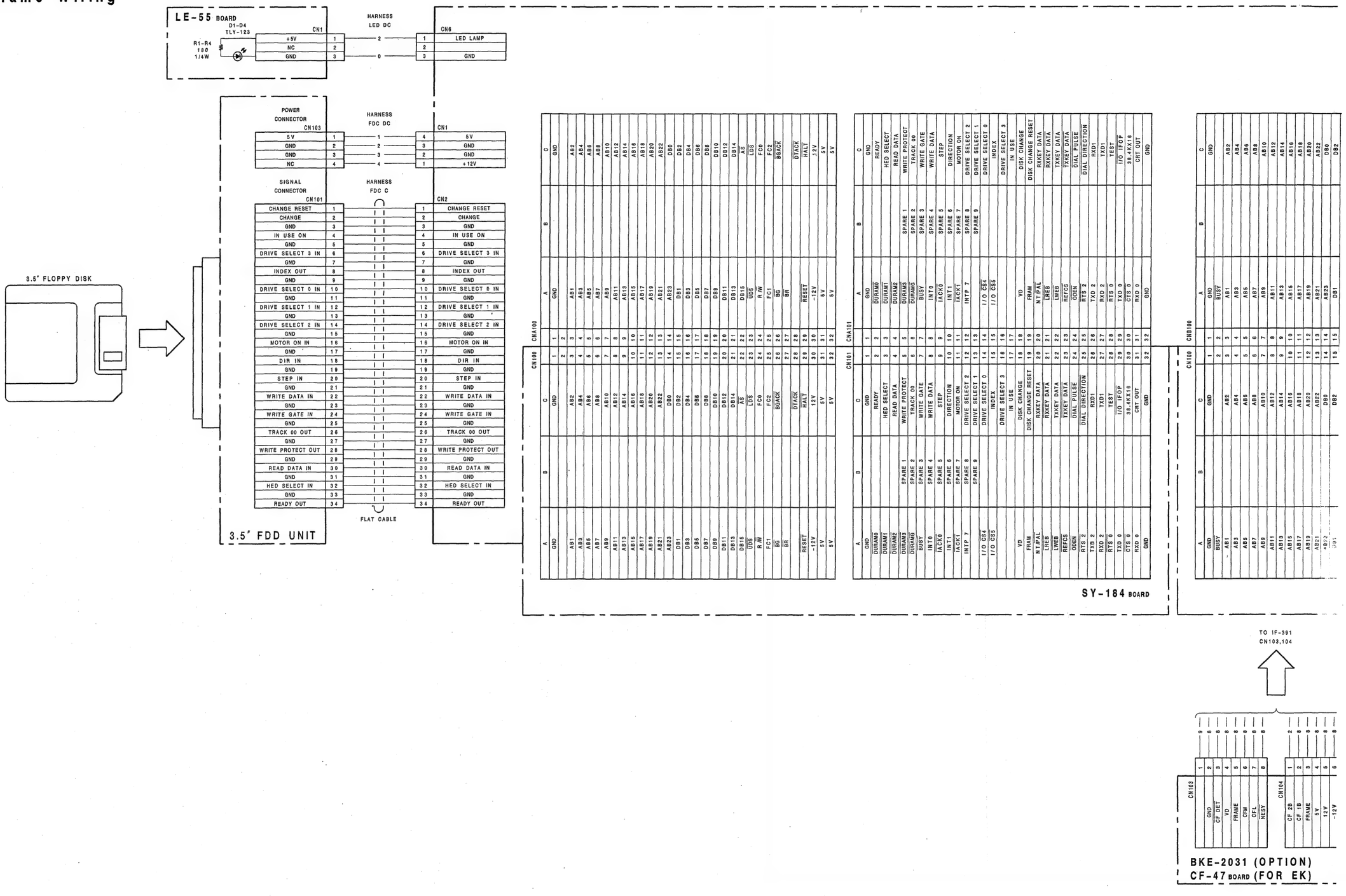
CN-787 BOARD
BOARD NO.1-647-043-11
BVE-2000

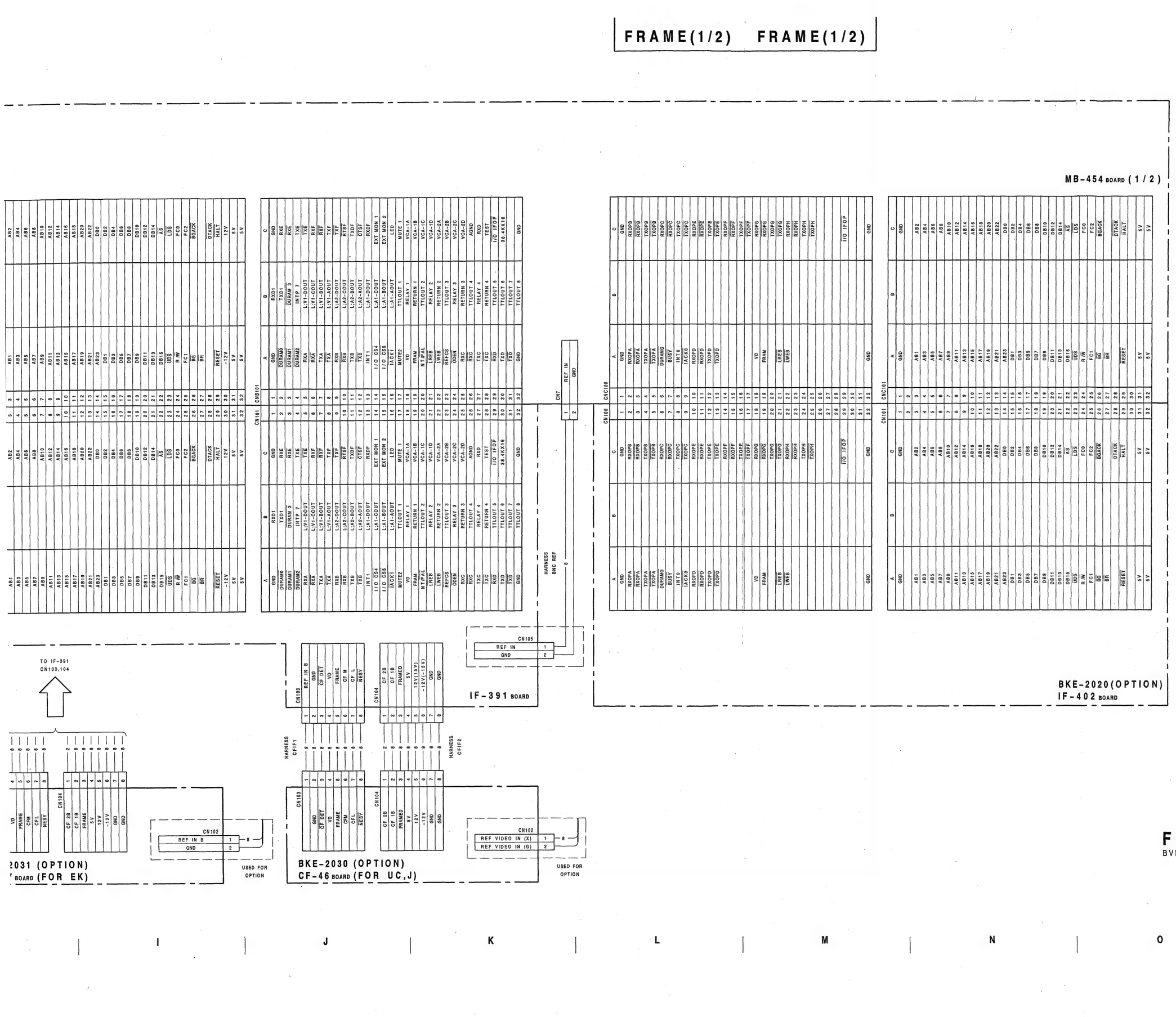
CN-788;Connector



CN-788 BOARD
BOARD NO.1-647-044-11
BKE-2020

FRAME(1/2);Frame Wiring

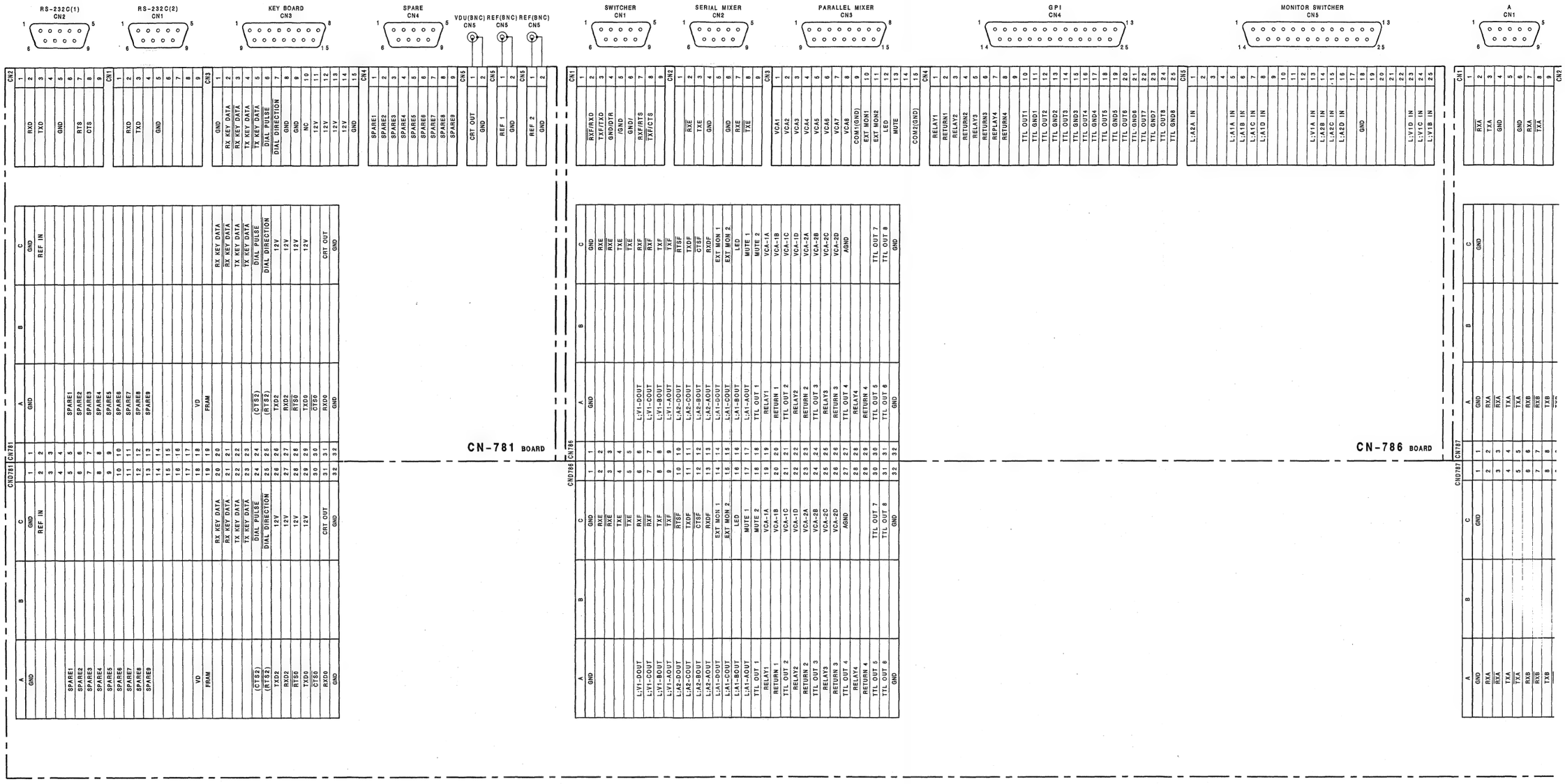


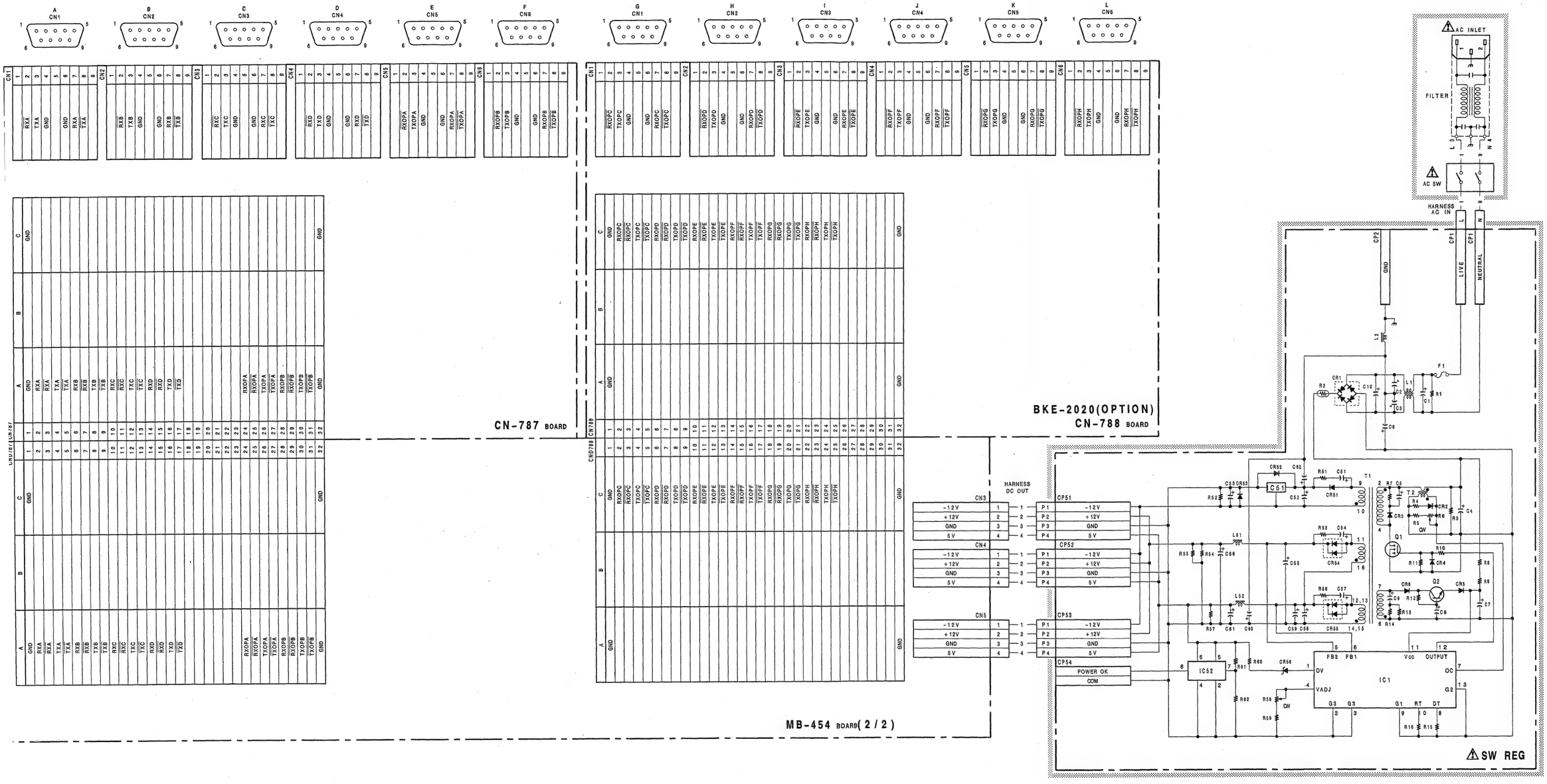


FRAME WIRING(1/2)

BVE-2000

FRAME(2/2);Frame Wiring



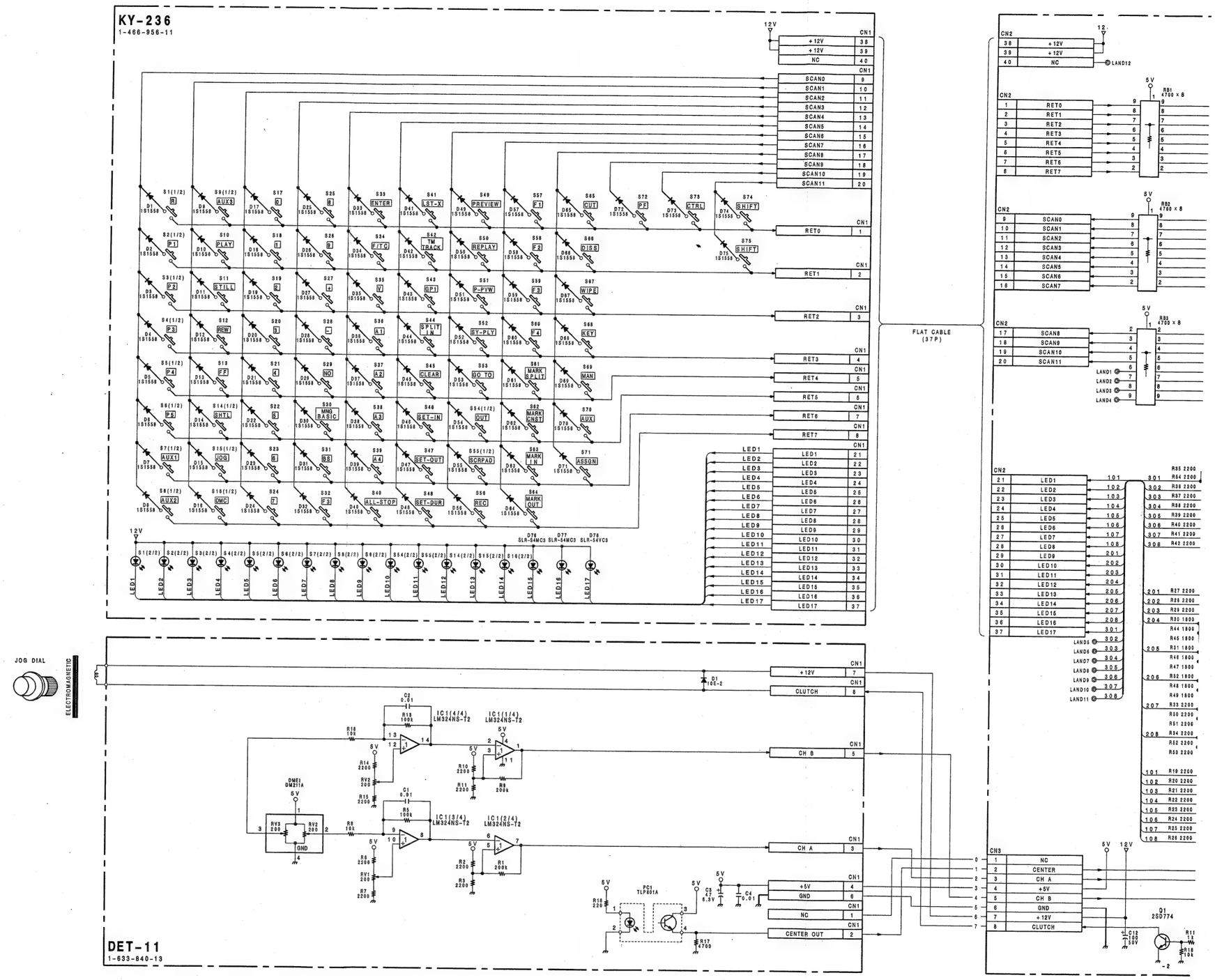


FRAME WIRING(2/2)

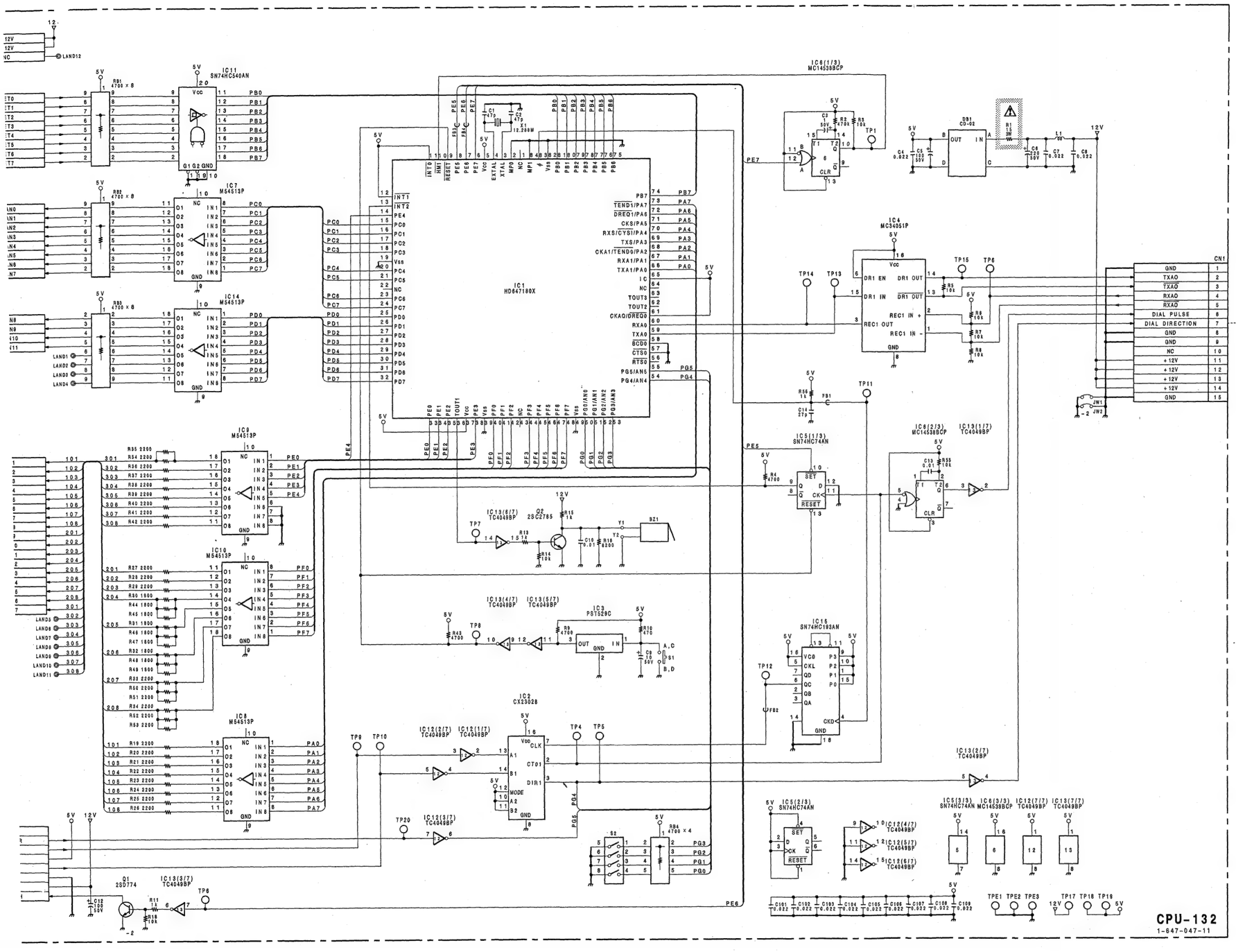
BVE-2000

CONTROL PANEL

CPU-132;Keyboard Controller
DET-11;Search Dial Detector
KY-236;Keyboard



CONTROL PANEL (BKE-2010)



CONTROL PANEL

CPU-132 BOARD
DET-11 BOARD
KY-236 BOARD
BKE-2010

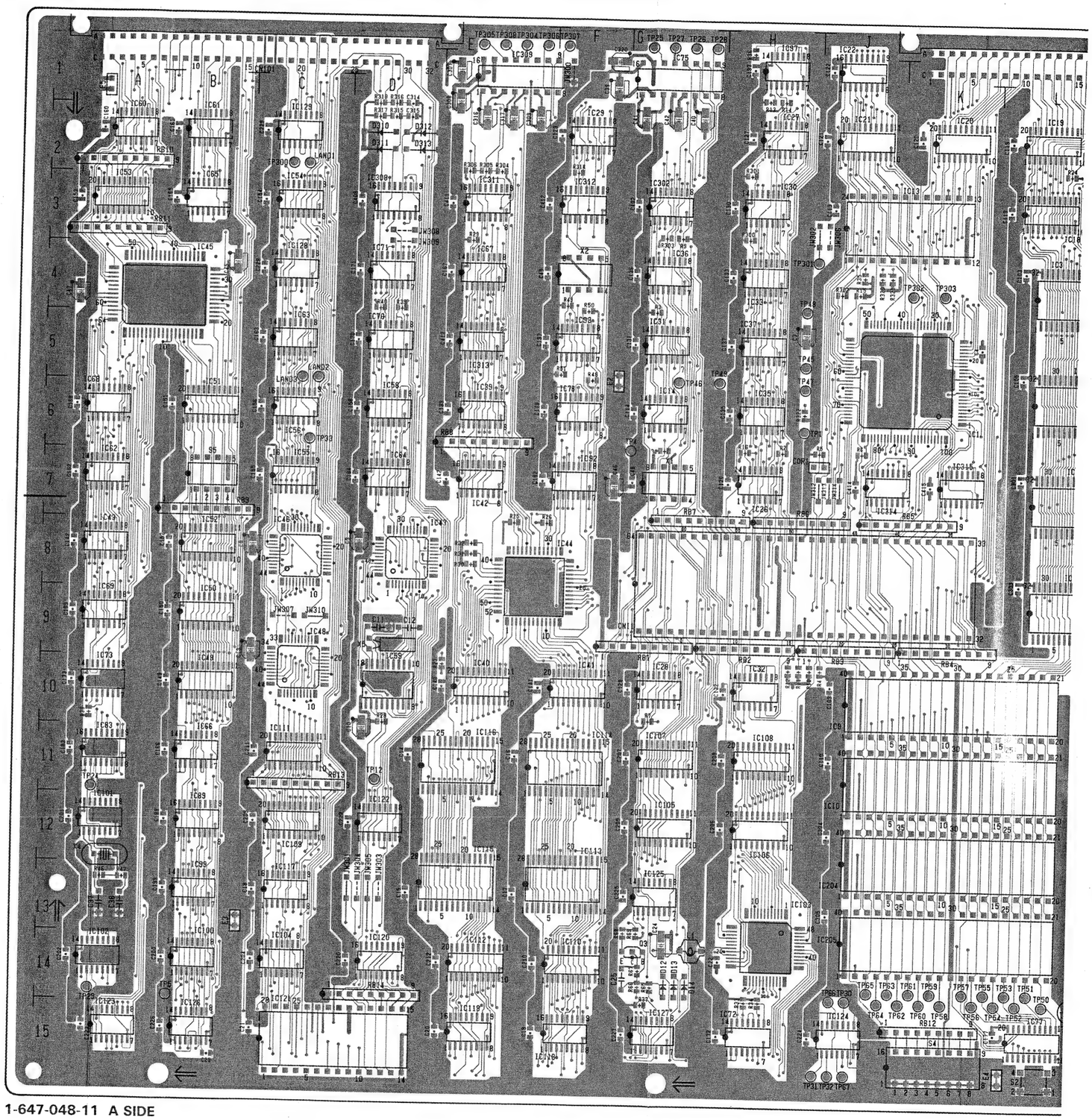
SECTION 3
BOARD LAYOUTS

Board	Function	Page
CF-46 (BKE-2030)	NTSC Color Framing Detector	3-6
CF-47 (BKE-2031)	PAL Color Framing Detector	3-7
CN-781	Connector	3-12
CN-786	Connector	3-13
CN-787	Connector	3-14
CN-788 (BKE-2020)	Connector	3-15
CPU-132(BKE-2010)	Keyboard Controller	3-17
DET-11 (BKE-2010)	Search Dial Detector	3-17
IF-391	Interface	3-4
IF-402 (BKE-2020)	9 PIN Interface	3-8
LE-55	Power Indicator	3-16
MB-454	Mother board	3-10
SY-184	Main CPU	3-2

SY-184(1-647-048-11)

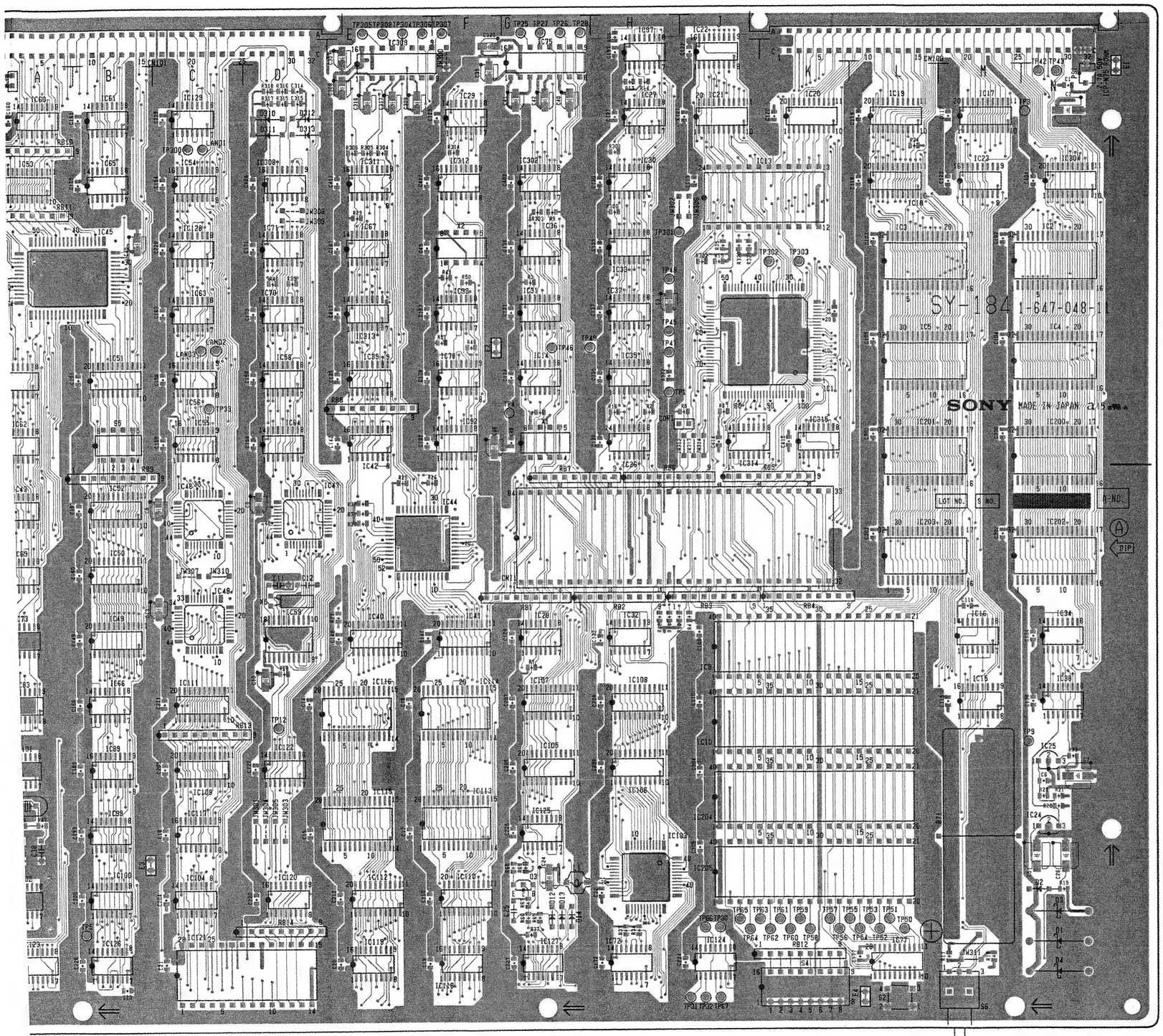
BT1	M-13	IC27	H-2	IC97	H-1	JW314	J-7	TP54	L-15
		IC28	G-10	IC99	B-13			TP55	L-14
CNI1	G-9	IC29	F-2	IC100	B-13	PS1	N-1	TP56	K-15
CNI9	J-10	IC30	H-3	IC101	A-12			TP57	K-14
CNI10	J-12	IC31	G-5	IC102	A-14	Q3	G-14	TP58	K-15
CNI121	C-14	IC32	H-10	IC103	H-13			TP59	K-14
CNI204	J-13	IC33	H-4	IC104	C-14	RB1	G-9	TP60	K-15
CNI205	J-13	IC34	N-10	IC105	G-12	RB2	H-9	TP61	K-14
		IC35	H-6	IC106	H-12	RB3	J-9	TP62	K-15
CN100	L-1	IC36	G-4	IC107	G-11	RB4	K-9	TP63	J-14
CN101	C-1	IC37	H-5	IC108	H-11	RB5	K-7	TP64	J-15
		IC38	N-11	IC109	C-12	RB6	H-7	TP65	J-14
COR1	H-7	IC39	E-6	IC110	F-14	RB7	G-7	TP66	J-14
		IC40	E-10	IC111	C-11	RB8	E-6	TP67	J-15
D1	N-14	IC41	F-10	IC112	E-14	RB9	B-7	TP300	C-2
D2	N-14	IC42	E-6	IC113	F-12	RB10	A-2	TP301	H-4
D3	N-14	IC43	A-8	IC114	F-11	RB11	A-3	TP302	K-4
D4	N-15	IC44	F-8	IC115	E-12	RB12	K-15	TP303	K-4
D12	G-14	IC45	B-4	IC116	E-11	RB13	C-11	TP304	E-1
D13	G-14	IC46	C-8	IC117	C-13	RB14	D-14	TP305	E-1
D14	G-14	IC47	E-8	IC118	F-15			TP306	E-1
D310	D-2	IC48	C-9	IC119	E-15	S2	L-15	TP307	F-1
D311	D-2	IC49	B-10	IC120	D-14	S4	K-15	TP308	E-1
D312	D-2	IC50	B-9	IC121	C-14	S5	B-7		
D313	D-2	IC51	B-6	IC122	D-12	S6	M-15	X1	G-7
		IC52	B-8	IC123	A-15			X2	F-4
E1	N-1	IC53	A-3	IC124	J-15	TP1	H-6	X4	A-12
E2	F-5	IC54	C-3	IC125	G-13	TP3	N-2	X5	D-9
E3	B-13	IC55	C-7	IC126	B-15	TP4	G-6		
E4	L-15	IC56	C-6	IC127	G-15	TP5	B-14		
E5	A-1	IC58	D-6	IC128	C-4	TP9	N-11		
		IC59	D-9	IC129	C-2	TP12	D-11		
IC1	K-6	IC60	A-2	IC200	N-7	TP24	A-11		
IC2	N-4	IC61	B-2	IC201	L-7	TP25	G-1		
IC3	L-4	IC62	A-7	IC202	N-8	TP26	G-1		
IC4	L-4	IC63	C-5	IC203	L-8	TP27	G-1		
IC5	L-5	IC64	D-6	IC302	G-3	TP28	G-1		
IC9	J-10	IC65	B-3	IC304	N-3	TP29	A-14		
IC10	J-12	IC66	B-11	IC308	D-3	TP30	J-14		
IC13	K-3	IC67	E-4	IC309	E-1	TP31	J-15		
IC14	G-6	IC68	A-6	IC311	E-3	TP32	J-15		
IC15	M-11	IC69	A-9	IC312	F-3	TP33	C-6		
IC16	M-10	IC70	D-5	IC313	E-5	TP42	N-1		
IC17	M-2	IC71	D-4	IC314	J-7	TP43	N-1		
IC18	L-3	IC72	H-15	IC315	K-7	TP45	H-5		
IC19	L-2	IC73	A-10			TP46	G-5		
IC20	K-2	IC75	G-1	JW301	D-13	TP47	H-5		
IC21	J-2	IC77	L-15	JW302	H-3	TP48	H-4		
IC22	J-1	IC78	F-6	JW305	D-13	TP49	G-5		
IC23	M-3	IC83	A-11	JW310	C-9	TP50	L-14		
IC24	N-13	IC89	B-12	JW311	M-15	TP51	L-14		
IC25	N-12	IC92	F-6	JW312	H-7	TP52	L-15		
IC26	H-7	IC93	F-5	JW313	J-7	TP53	L-14		

SY-184;Main CPU



1-647-048-11 A SIDE

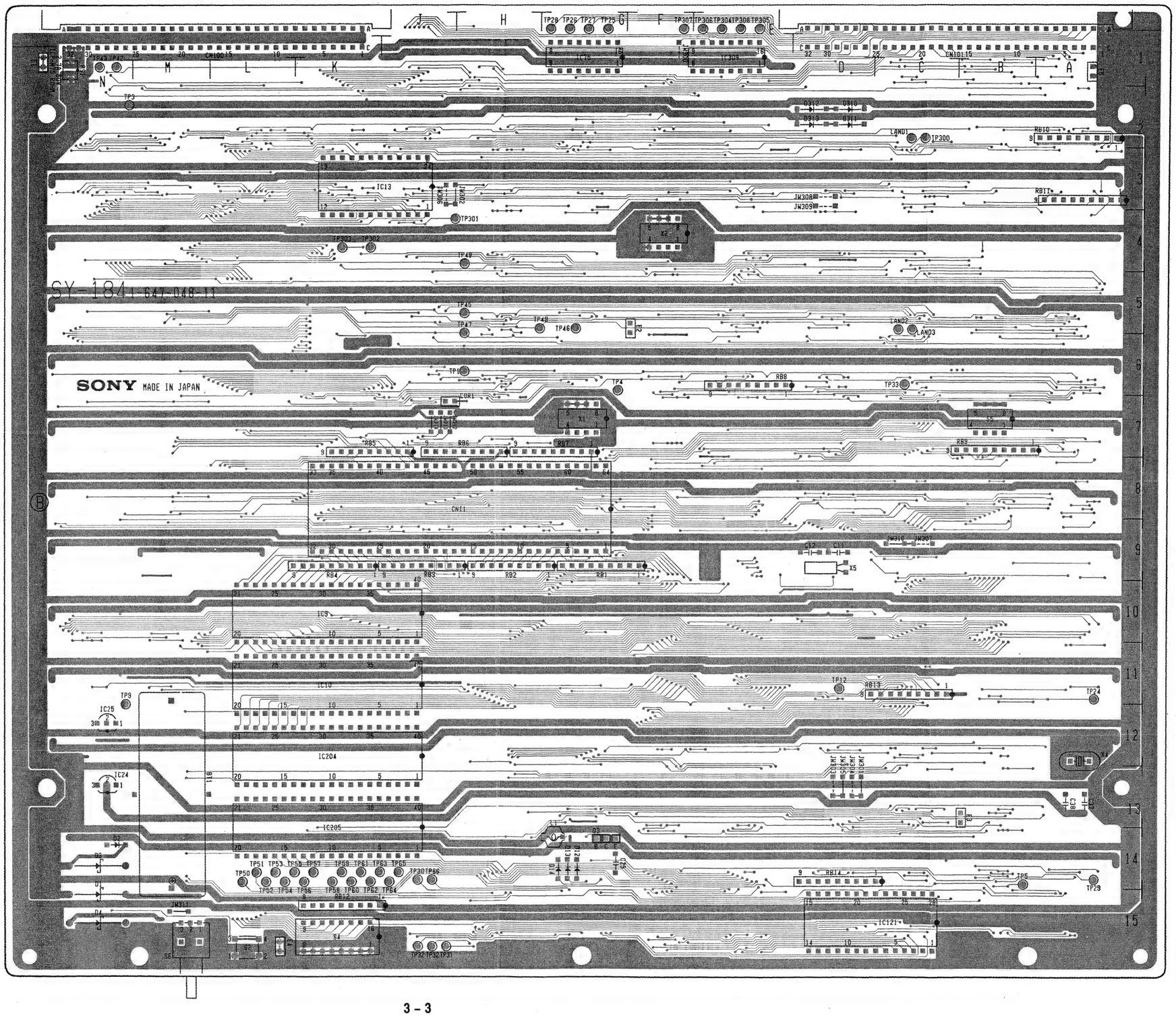
;Main CPU



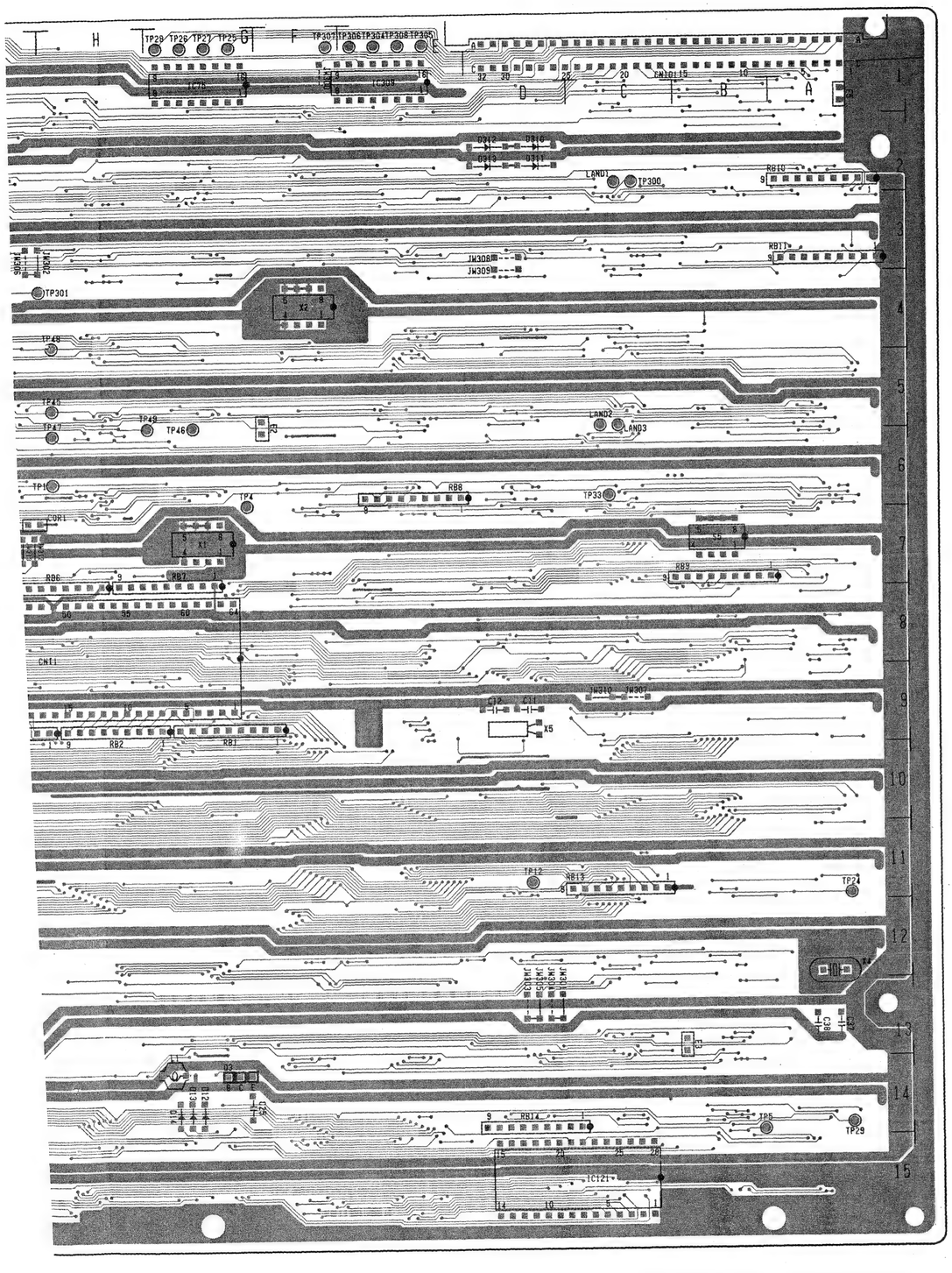
A SIDE

SY-184 -A SIDE-
1-647-048-11
BVE-2000

SY-184;Main CPU



SY-184-B
1-647-048-11
BVE-2000



SY-184 -B SIDE-
1-647-048-11
BVE-2000

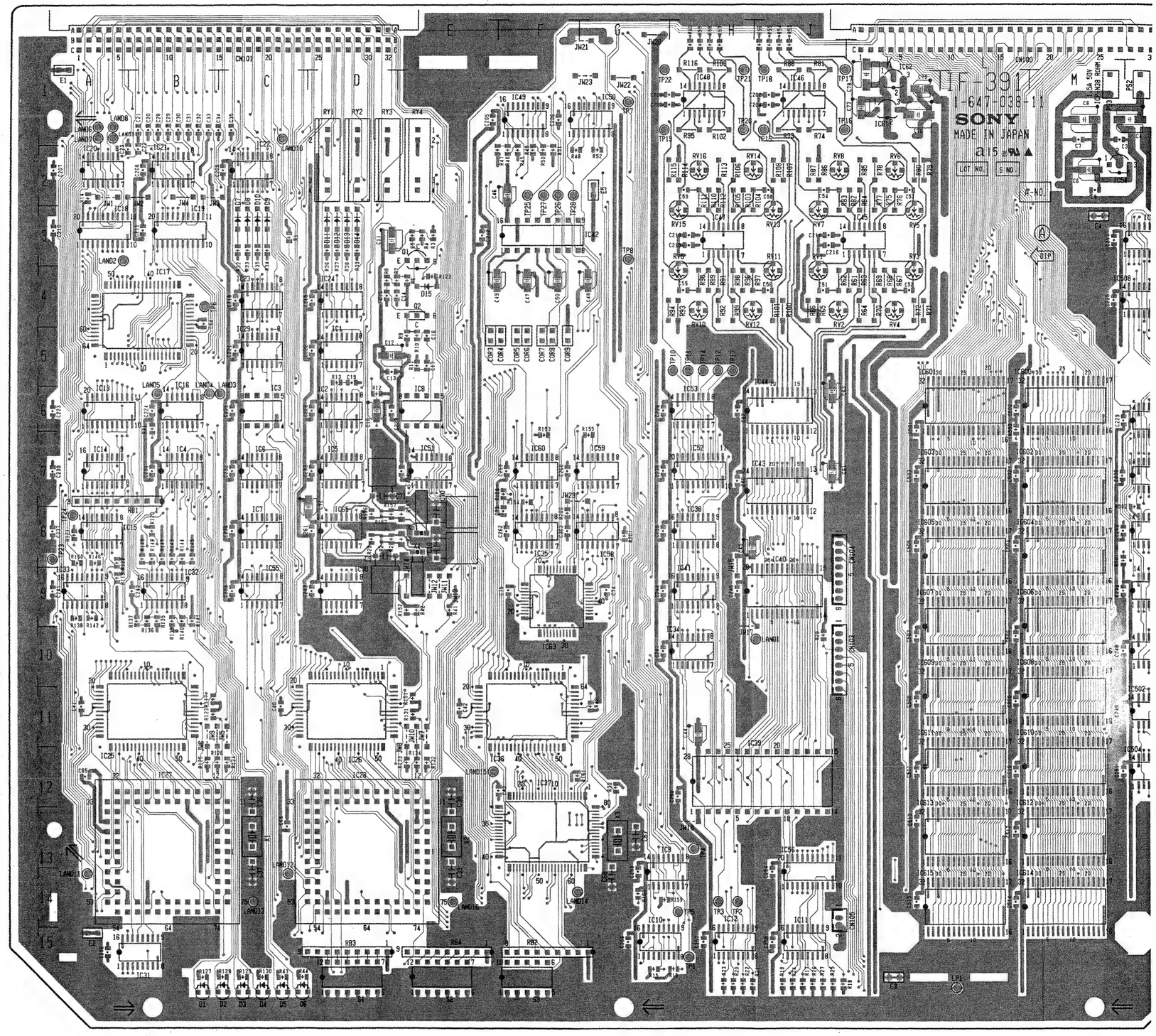
SY-184(1-647-048-11)

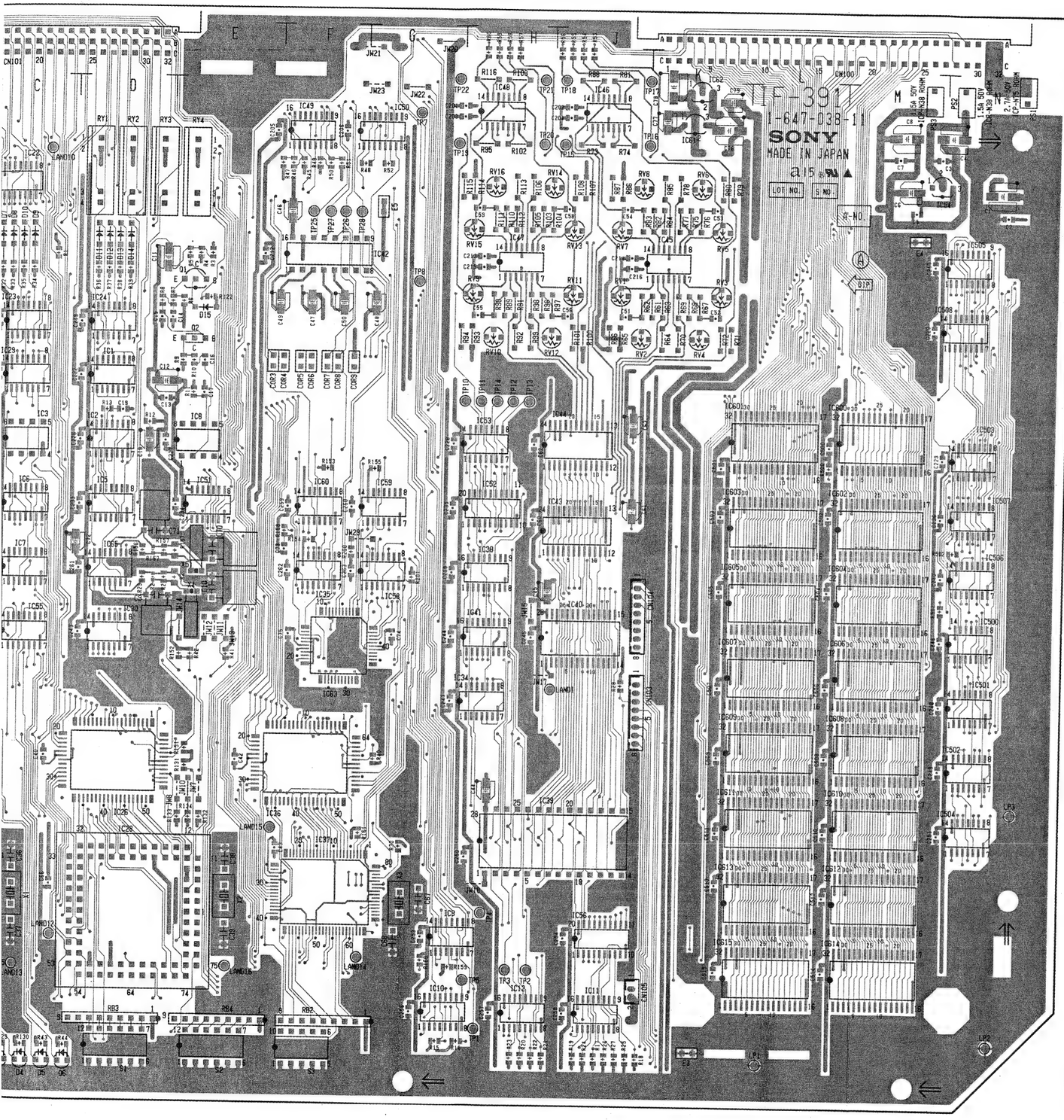
BT1	M-13	IC27	H-2	IC97	H-1	JW314	J-7	TP54	L-15
		IC28	G-10	IC99	B-13			TP55	L-14
CN11	G-9	IC29	F-2	IC100	B-13	PS1	N-1	TP56	K-15
CN19	J-10	IC30	H-3	IC101	A-12			TP57	K-14
CN110	J-12	IC31	G-5	IC102	A-14	Q3	G-14	TP58	K-15
CN1121	C-14	IC32	H-10	IC103	H-13			TP59	K-14
CN1204	J-13	IC33	H-4	IC104	C-14	RB1	G-9	TP60	K-15
CN1205	J-13	IC34	N-10	IC105	G-12	RB2	H-9	TP61	K-14
		IC35	H-6	IC106	H-12	RB3	J-9	TP62	K-15
CN100	L-1	IC36	G-4	IC107	G-11	RB4	K-9	TP63	J-14
CN101	C-1	IC37	H-5	IC108	H-11	RB5	K-7	TP64	J-15
		IC38	N-11	IC109	C-12	RB6	H-7	TP65	J-14
COR1	H-7	IC39	E-6	IC110	F-14	RB7	G-7	TP66	J-14
		IC40	E-10	IC111	C-11	RB8	E-6	TP67	J-15
D1	N-14	IC41	F-10	IC112	E-14	RB9	B-7	TP300	C-2
D2	N-14	IC42	E-6	IC113	F-12	RB10	A-2	TP301	H-4
D3	N-14	IC43	A-8	IC114	F-11	RB11	A-3	TP302	K-4
D4	N-15	IC44	F-8	IC115	E-12	RB12	K-15	TP303	K-4
D12	G-14	IC45	B-4	IC116	E-11	RB13	C-11	TP304	E-1
D13	G-14	IC46	C-8	IC117	C-13	RB14	D-14	TP305	E-1
D14	G-14	IC47	E-8	IC118	F-15			TP306	E-1
D310	D-2	IC48	C-9	IC119	E-15	S2	L-15	TP307	F-1
D311	D-2	IC49	B-10	IC120	D-14	S4	K-15	TP308	E-1
D312	D-2	IC50	B-9	IC121	C-14	S5	B-7		
D313	D-2	IC51	B-6	IC122	D-12	S6	M-15	X1	G-7
		IC52	B-8	IC123	A-15			X2	F-4
E1	N-1	IC53	A-3	IC124	J-15	TP1	H-6	X4	A-12
E2	F-5	IC54	C-3	IC125	G-13	TP3	N-2	X5	D-9
E3	B-13	IC55	C-7	IC126	B-15	TP4	G-6		
E4	L-15	IC56	C-6	IC127	G-15	TP5	B-14		
E5	A-1	IC58	D-6	IC128	C-4	TP9	N-11		
		IC59	D-9	IC129	C-2	TP12	D-11		
IC1	K-6	IC60	A-2	IC200	N-7	TP24	A-11		
IC2	N-4	IC61	B-2	IC201	L-7	TP25	G-1		
IC3	L-4	IC62	A-7	IC202	N-8	TP26	G-1		
IC4	L-4	IC63	C-5	IC203	L-8	TP27	G-1		
IC5	L-5	IC64	D-6	IC302	G-3	TP28	G-1		
IC9	J-10	IC65	B-3	IC304	N-3	TP29	A-14		
IC10	J-12	IC66	B-11	IC308	D-3	TP30	J-14		
IC13	K-3	IC67	E-4	IC309	E-1	TP31	J-15		
IC14	G-6	IC68	A-6	IC311	E-3	TP32	J-15		
IC15	M-11	IC69	A-9	IC312	F-3	TP33	C-6		
IC16	M-10	IC70	D-5	IC313	E-5	TP42	N-1		
IC17	M-2	IC71	D-4	IC314	J-7	TP43	N-1		
IC18	L-3	IC72	H-15	IC315	K-7	TP45	H-5		
IC19	L-2	IC73	A-10			TP46	G-5		
IC20	K-2	IC75	G-1	JW301	D-13	TP47	H-5		
IC21	J-2	IC77	L-15	JW302	H-3	TP48	H-4		
IC22	J-1	IC78	F-6	JW305	D-13	TP49	G-5		
IC23	M-3	IC83	A-11	JW310	C-9	TP50	L-14		
IC24	N-13	IC89	B-12	JW311	M-15	TP51	L-14		
IC25	N-12	IC92	F-6	JW312	H-7	TP52	L-15		
IC26	H-7	IC93	F-5	JW313	J-7	TP53	L-14		

IF-391(1-647-038-11)

CNI27	B-12	IC10	G-14	JW2	B-2	TP2
CNI28	D-12	IC11	J-14	JW4	B-2	TP3
CNI39	J-12	IC12	H-14	JW9	B-11	TP4
		IC13	A-6	JW10	E-11	TP5
CN100	L-1	IC14	A-7	JW13	E-9	TP6
CN101	C-1	IC15	A-8	JW14	E-8	TP7
CN103	K-10	IC16	B-5	JW15	H-8	TP8
CN104	K-8	IC17	B-4	JW20	G-1	TP10
CN105	K-14	IC18	A-3	JW22	G-1	TP11
		IC19	B-3			TP12
COP3	E-5	IC20	A-2	LP1	L-15	TP13
COP5	F-5	IC21	B-2	LP2	N-15	TP14
COP7	F-5	IC22	C-2	LP3	N-12	TP15
COP9	F-5	IC23	C-4			TP16
		IC24	D-4	PS1	N-1	TP17
COR3	E-5	IC25	A-12	PS2	N-1	TP18
COR4	E-5	IC26	D-12	PS3	M-1	TP19
COR5	F-5	IC27	B-12			TP20
COR6	F-5	IC28	D-12	Q1	E-3	TP21
COR7	F-5	IC29	C-5	Q2	E-4	TP22
COR8	F-5	IC30	D-9			TP23
COR9	F-5	IC31	B-15	RB1	B-8	TP24
		IC32	B-9	RB2	F-15	TP25
D1	B-15	IC33	A-9	RB3	D-15	TP26
D2	C-15	IC34	H-10	RB4	E-15	TP27
D3	C-15	IC35	F-8			TP28
D4	C-15	IC36	F-12	RV1	J-3	
D5	C-15	IC37	F-12	RV2	J-5	X1
D6	C-15	IC38	H-8	RV3	K-3	X2
D7	C-2	IC39	J-12	RV4	K-5	X3
D8	C-2	IC40	J-8	RV5	K-3	X4
D9	C-2	IC41	H-9	RV6	K-2	X5
D10	C-2	IC42	G-3	RV7	J-3	
D11	D-3	IC43	J-7	RV8	J-2	
D12	D-3	IC44	J-6	RV9	H-3	
D13	D-3	IC45	K-3	RV10	H-5	
D14	D-3	IC46	J-1	RV11	J-3	
D15	E-4	IC47	H-3	RV12	H-5	
		IC48	H-1	RV13	J-3	
E1	A-1	IC49	F-1	RV14	H-2	
E2	A-15	IC50	G-1	RV15	H-3	
E3	K-15	IC51	E-7	RV16	H-2	
E4	M-3	IC52	H-7			
E5	G-2	IC53	H-6	RY1	D-1	
		IC54	M-2	RY2	D-1	
IC2	D-6	IC55	C-9	RY3	D-1	
IC3	C-6	IC56	J-13	RY4	E-1	
IC4	B-7	IC58	G-8			
IC5	D-7	IC59	G-7	S1	D-15	
IC6	C-7	IC60	F-7	S2	E-15	
IC7	C-8	IC61	K-1	S3	F-15	
IC8	E-6	IC62	K-1			
IC9	H-13	IC65	D-8	TP1	H-15	

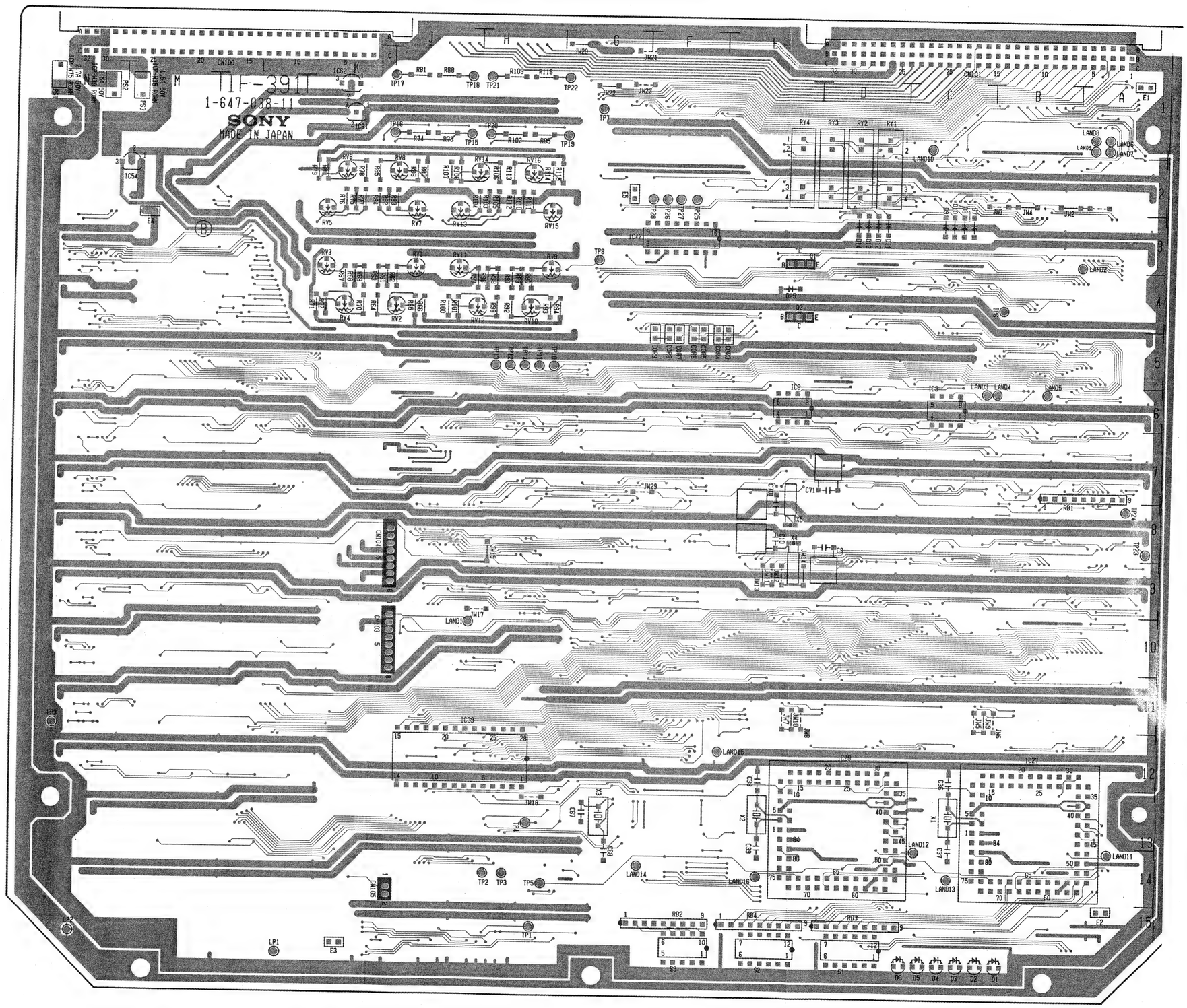
IF-391;Interface

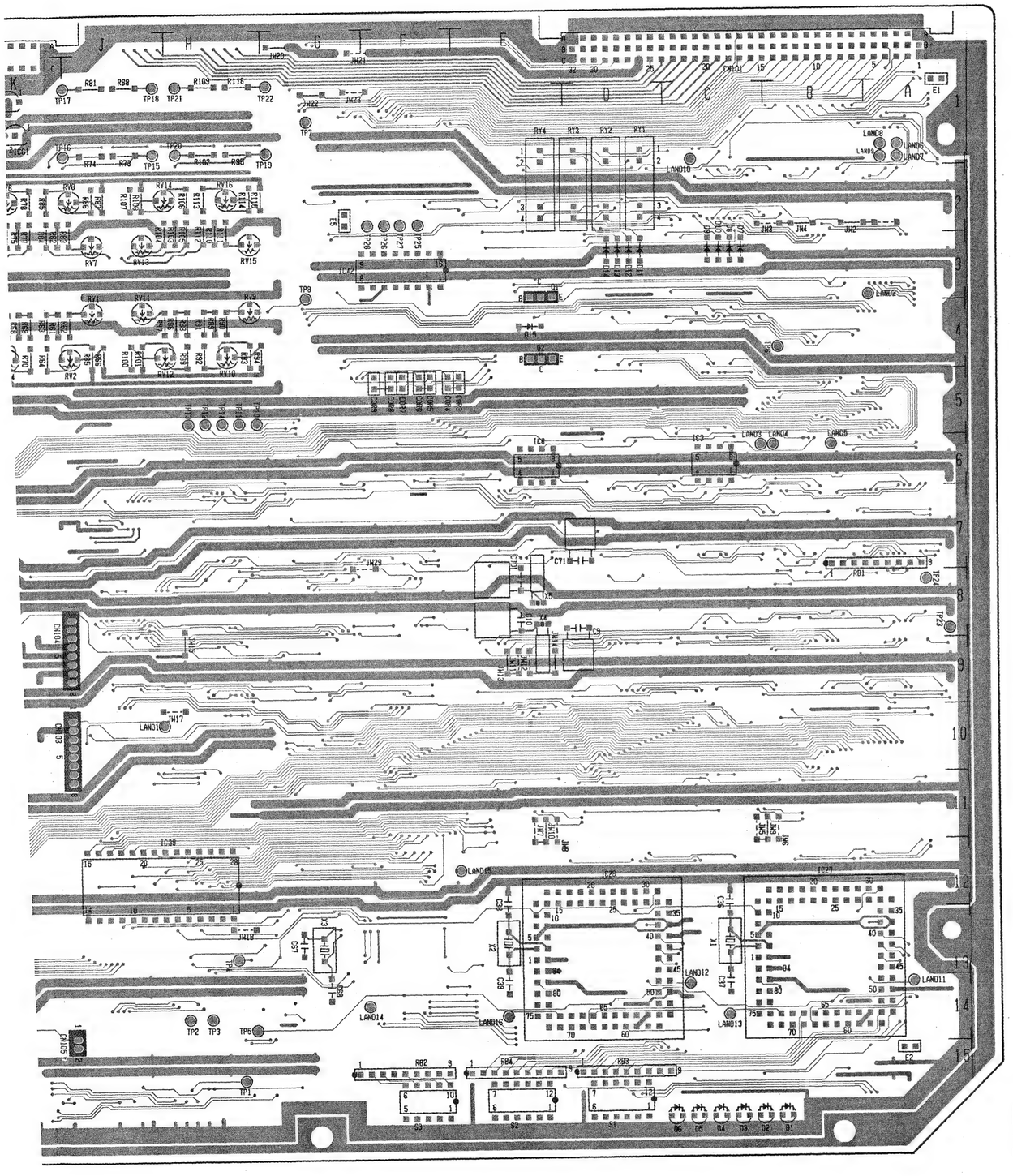




IF-391 -A SIDE-
1-647-038-11
BVE-2000

IF-391;Interface





IF-391 -B SIDE-

1-647-038-11

BVE-2000

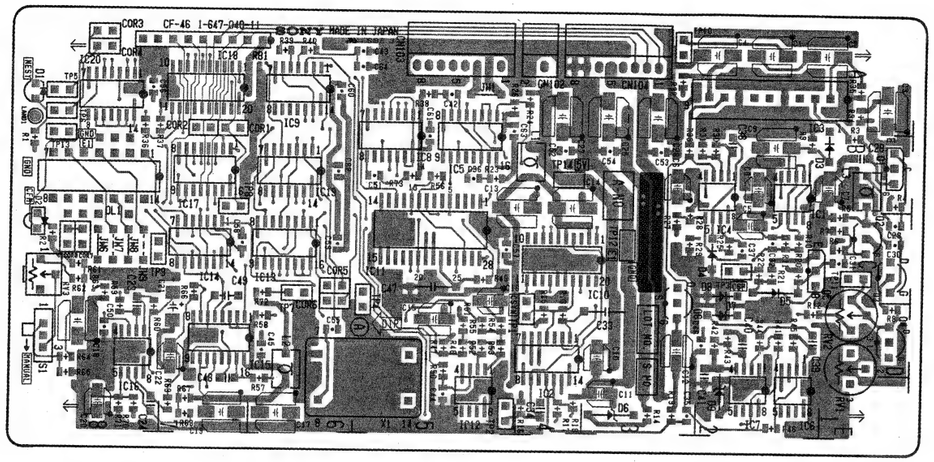
IF-391(1-647-038-11)

CNI27	B-12	IC10	G-14	JW2	B-2	TP2	H-14
CNI28	D-12	IC11	J-14	JW4	B-2	TP3	H-14
CNI39	J-12	IC12	H-14	JW9	B-11	TP4	H-13
		IC13	A-6	JW10	E-11	TP5	H-14
CN100	L-1	IC14	A-7	JW13	E-9	TP6	B-4
CN101	C-1	IC15	A-8	JW14	E-8	TP7	G-1
CN103	K-10	IC16	B-5	JW15	H-8	TP8	G-3
CN104	K-8	IC17	B-4	JW20	G-1	TP10	H-5
CN105	K-14	IC18	A-3	JW22	G-1	TP11	H-5
		IC19	B-3			TP12	H-5
COP3	E-5	IC20	A-2	LP1	L-15	TP13	H-5
COP5	F-5	IC21	B-2	LP2	N-15	TP14	H-5
COP7	F-5	IC22	C-2	LP3	N-12	TP15	J-1
COP9	F-5	IC23	C-4			TP16	J-1
		IC24	D-4	PS1	N-1	TP17	J-1
COR3	E-5	IC25	A-12	PS2	N-1	TP18	J-1
COR4	E-5	IC26	D-12	PS3	M-1	TP19	G-1
COR5	F-5	IC27	B-12			TP20	H-1
COR6	F-5	IC28	D-12	Q1	E-3	TP21	H-1
COR7	F-5	IC29	C-5	Q2	E-4	TP22	G-1
COR8	F-5	IC30	D-9			TP23	A-8
COR9	F-5	IC31	B-15	RB1	B-8	TP24	A-8
		IC32	B-9	RB2	F-15	TP25	F-3
D1	B-15	IC33	A-9	RB3	D-15	TP26	F-3
D2	C-15	IC34	H-10	RB4	E-15	TP27	F-3
D3	C-15	IC35	F-8			TP28	F-3
D4	C-15	IC36	F-12	RV1	J-3		
D5	C-15	IC37	F-12	RV2	J-5	X1	C-13
D6	C-15	IC38	H-8	RV3	K-3	X2	E-13
D7	C-2	IC39	J-12	RV4	K-5	X3	G-13
D8	C-2	IC40	J-8	RV5	K-3	X4	E-8
D9	C-2	IC41	H-9	RV6	K-2	X5	E-8
D10	C-2	IC42	G-3	RV7	J-3		
D11	D-3	IC43	J-7	RV8	J-2		
D12	D-3	IC44	J-6	RV9	H-3		
D13	D-3	IC45	K-3	RV10	H-5		
D14	D-3	IC46	J-1	RV11	J-3		
D15	E-4	IC47	H-3	RV12	H-5		
		IC48	H-1	RV13	J-3		
E1	A-1	IC49	F-1	RV14	H-2		
E2	A-15	IC50	G-1	RV15	H-3		
E3	K-15	IC51	E-7	RV16	H-2		
E4	M-3	IC52	H-7				
E5	G-2	IC53	H-6	RY1	D-1		
		IC54	M-2	RY2	D-1		
IC2	D-6	IC55	C-9	RY3	D-1		
IC3	C-6	IC56	J-13	RY4	E-1		
IC4	B-7	IC58	G-8				
IC5	D-7	IC59	G-7	S1	D-15		
IC6	C-7	IC60	F-7	S2	E-15		
IC7	C-8	IC61	K-1	S3	F-15		
IC8	E-6	IC62	K-1				
IC9	H-13	IC65	D-8	TP1	H-15		

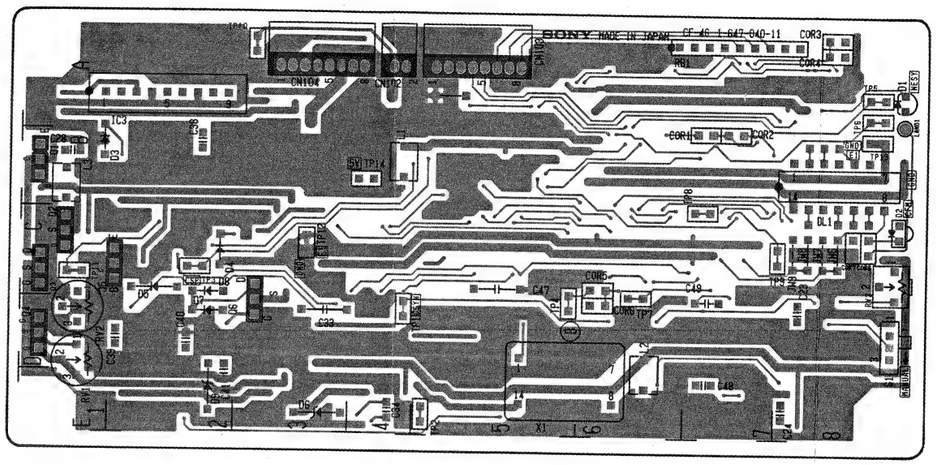
CF-46(1-647-040-11)

CN102	A-4	JW1	A-5
CN103	A-5	JW6	C-8
CNI04	A-3	JW8	C-8
COP2	A-7	Q1	B-1
COP4	A-8	Q2	C-1
COP6	D-6	Q3	C-1
COP8	C-8	Q4	D-1
		Q5	C-1
COR1	B-6	Q6	D-3
COR2	A-7		
COR3	A-8	RB1	A-6
COR4	A-8		
COR5	C-6	RV1	E-1
COR6	D-6	RV2	D-1
COR7	C-8	RV3	C-8
COR8	C-8		
		S1	E-8
DL1	C-8		
		TP1	D-5
D1	A-8	TP2	E-5
D2	B-8	TP3	C-2
D3	B-2	TP4	D-5
D4	C-2	TP5	A-8
D5	C-2	TP6	A-8
D6	E-3	TP7	D-6
D7	D-2	TP8	B-7
D8	E-2	TP9	C-8
D9	C-2	TP10	A-3
		TP11	C-1
IC1	C-2	TP12	C-3
IC2	E-4	TP13	B-8
IC3	A-2	TP14	B-4
IC4	C-2		
IC5	B-5	X1	E-5
IC6	E-2		
IC7	E-2		
IC8	B-5		
IC9	A-6		
IC10	C-3		
IC11	C-5		
IC12	E-5		
IC13	C-6		
IC14	C-7		
IC15	D-6		
IC16	E-8		
IC17	B-7		
IC18	A-7		
IC19	B-6		
IC20	A-8		

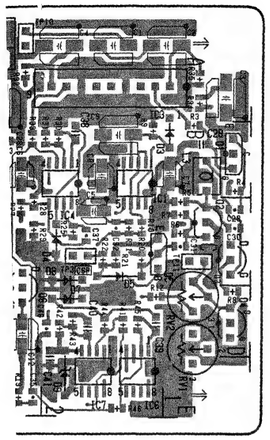
For J,UC
CF-46;NTSC Color Framing Detector



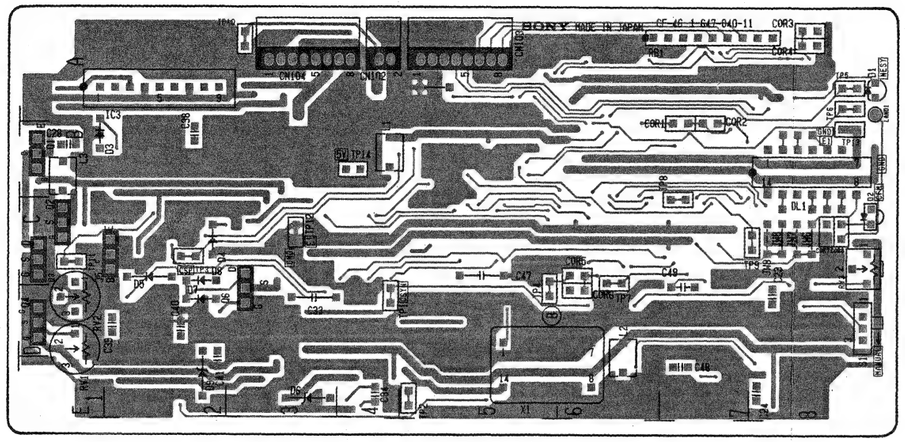
CF-46 -A SIDE-
1-647-040-11
BKE-2030



CF-46 -B SIDE-
1-647-040-11
BKE-2030

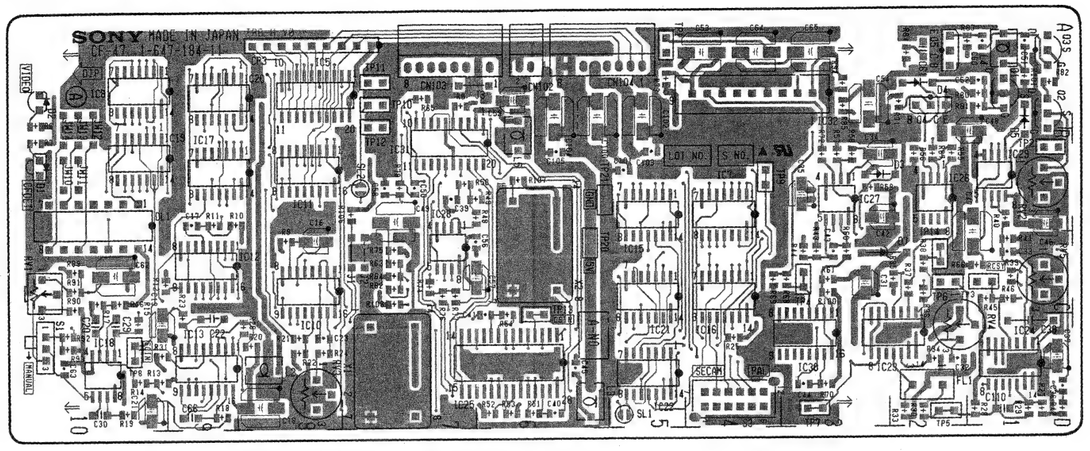


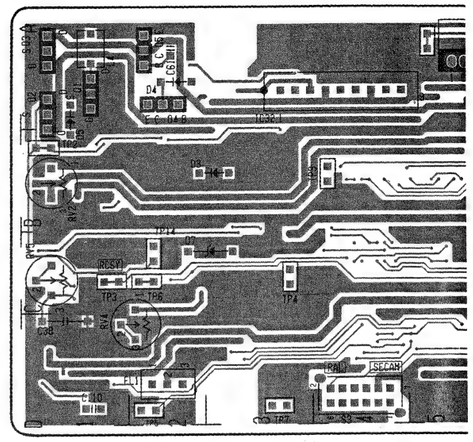
-46 -A SIDE-
7-040-11
2030



CF-46 -B SIDE-
1-647-040-11
BKE-2030

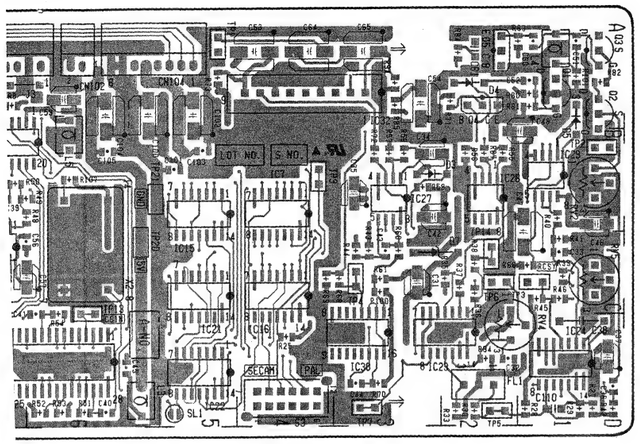
For EK
CF-47;PAL Color Framing Detector





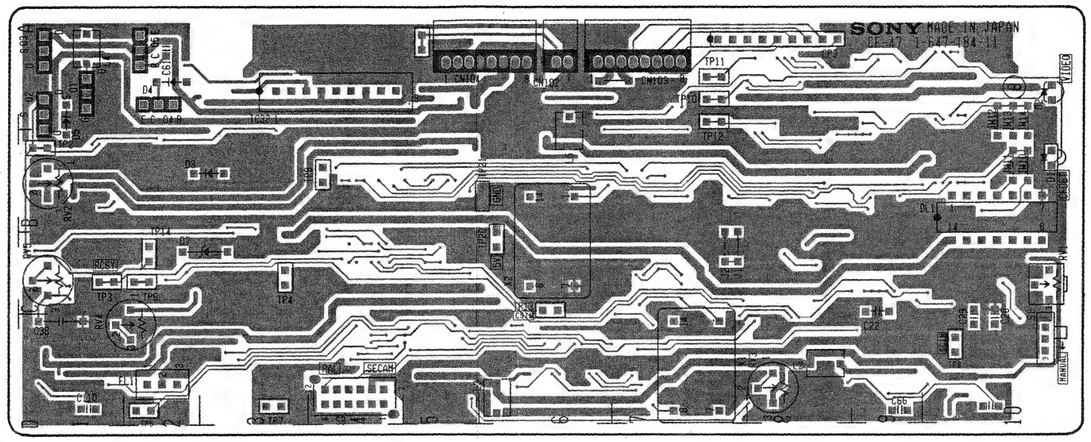
CF-47 -A SIDE-
1-647-184-11
BKE-2031

ector



CF-47 -A SIDE-

1-647-184-11
BKE-2031



CF-47 -B SIDE-

1-647-184-11
BKE-2031

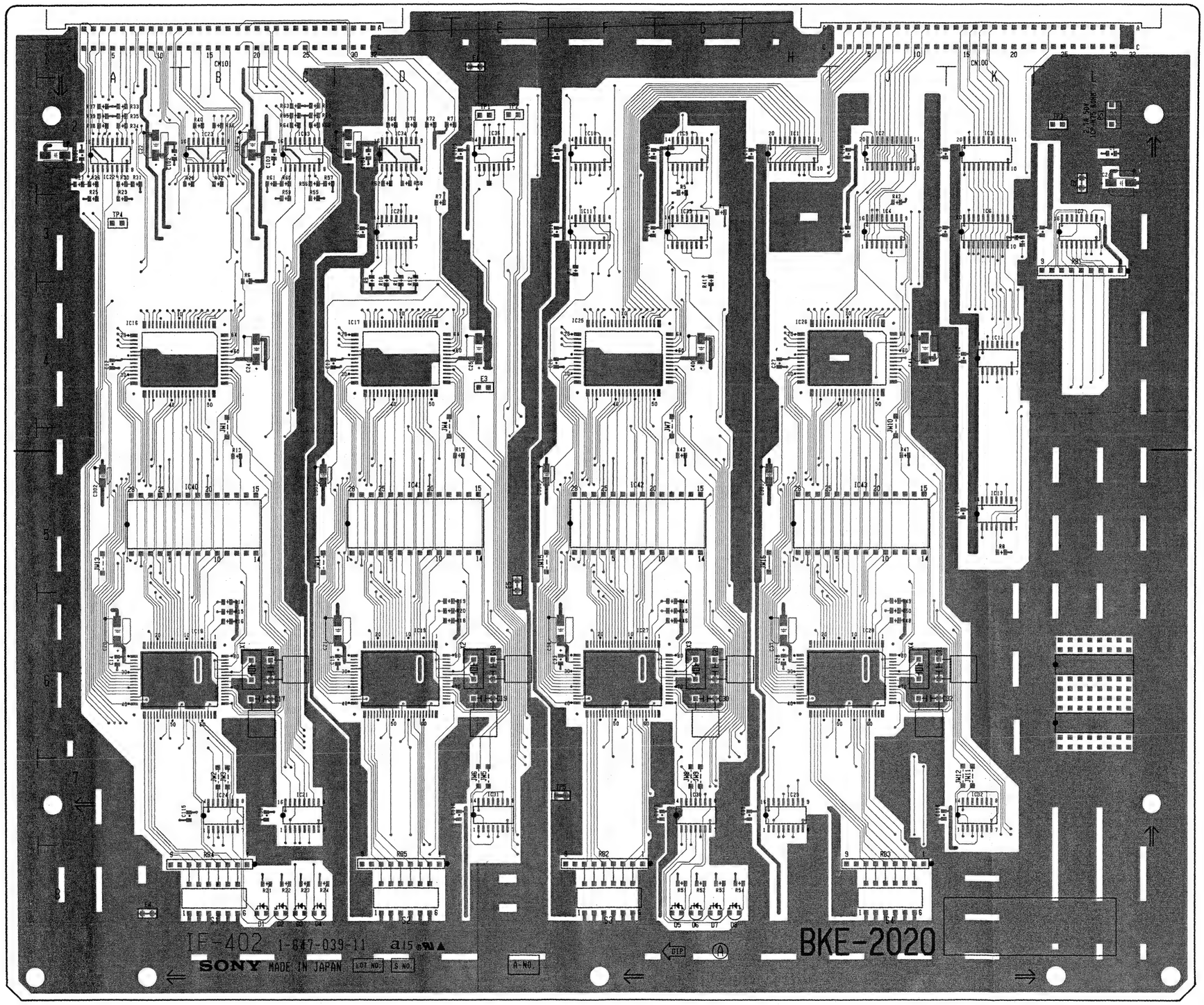
CF-47(1-647-184-11)

CN102	A-6	Q2	A-1
CN103	A-7	Q3	A-1
CN104	A-5	Q4	A-2
		Q5	A-2
CP3	A-8		
		RV1	C-10
DL1	B-10	RV2	B-1
		RV3	D-8
D1	B-10	RV4	D-1
D2	A-10	RV5	C-1
D3	B-2		
D4	A-2	S1	D-10
D5	B-1	S3	D-4
D7	C-2		
		TP1	A-5
FL1	D-2	TP2	B-1
		TP3	C-1
IC5	A-8	TP4	C-3
IC7	B-4	TP5	D-2
IC8	A-10	TP6	C-2
IC10	D-8	TP7	D-3
IC11	P-8	TP8	D-10
IC12	C-8	TP9	B-4
IC13	D-9	TP10	A-7
IC15	C-5	TP11	A-7
IC16	D-4	TP12	B-7
IC17	B-9	TP13	C-6
IC18	D-10	TP14	B-2
IC19	B-9	TP20	C-6
IC20	A-8	TP21	B-6
IC21	D-5		
IC22	D-5	X1	D-7
IC23	D-2	X2	C-6
IC24	D-1		
IC25	D-7		
IC26	B-2		
IC27	B-3		
IC28	B-7		
IC29	B-1		
IC30	D-3		
IC31	B-7		
IC32	A-3		
JW10	B-10		
JW12	A-10		
J1	C-7		
J2	C-7		
J3	A-6		
Q1	A-1		

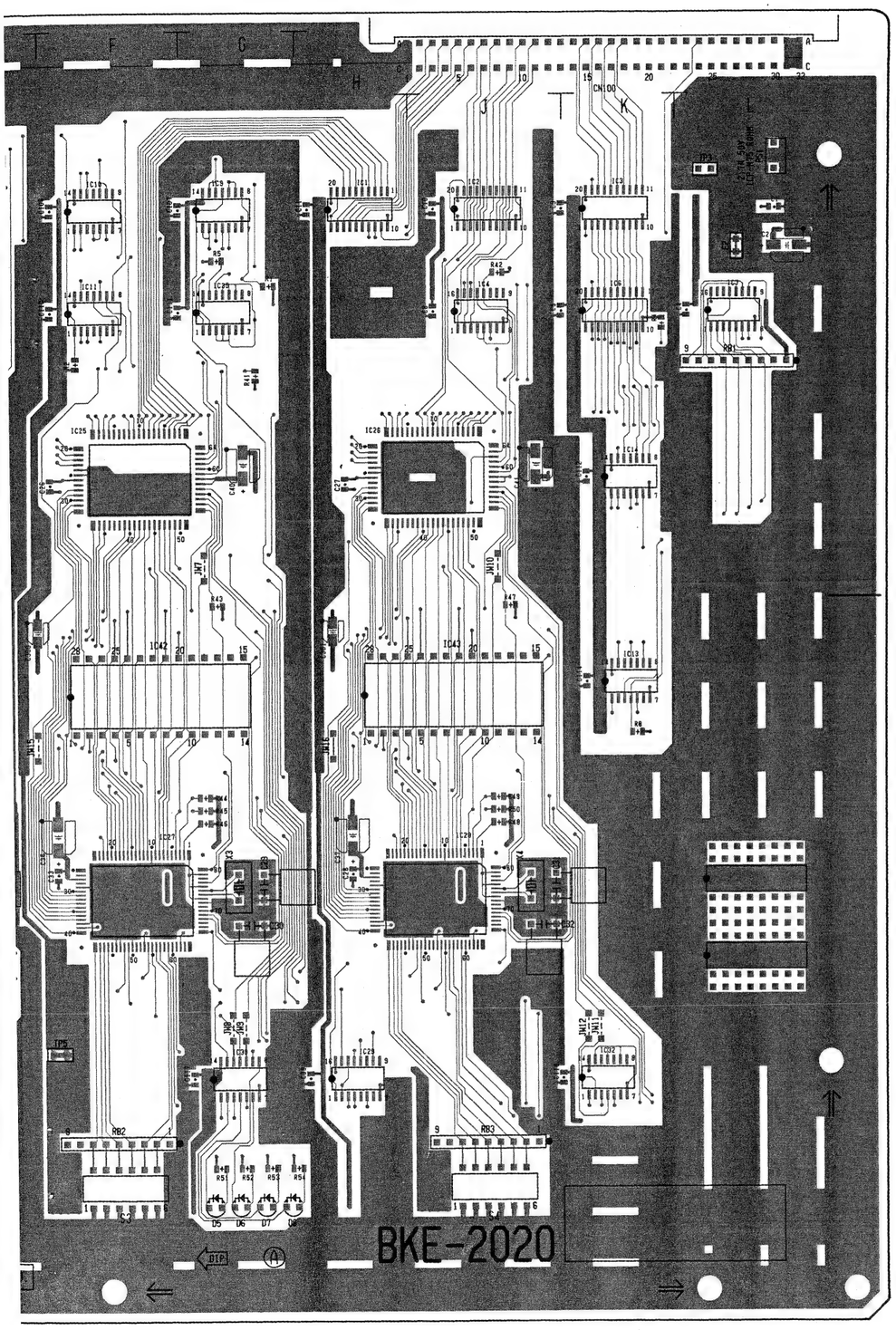
IF-402;9 PIN Interface

IF-402(1-647-039-11)

CNI40	B-5	IC41	D-5
CNI41	D-5	IC42	F-5
CNI42	F-5	IC43	J-5
CNI43	J-5		
		JW1	B-4
CN100	K-1	JW4	D-4
CN101	B-1	JW7	G-4
		JW10	J-4
D1	C-8		
D2	C-8	PS1	L-2
D3	C-8		
D4	C-8	RB1	L-3
D5	G-8	RB2	F-8
D6	G-8	RB3	J-8
D7	G-8	RB4	B-7
D8	G-8	RB5	D-7
E1	E-1	S1	B-8
E2	L-2	S2	D-8
E3	E-4	S3	F-8
E4	A-8	S4	J-8
E5	E-5		
		TP1	E-2
IC1	H-2	TP2	E-2
IC2	J-2	TP3	L-2
IC3	K-2	TP4	A-3
IC4	J-3	TP5	F-7
IC6	K-3		
IC7	L-3	X1	B-6
IC9	G-2	X2	E-6
IC10	F-2	X3	G-6
IC11	F-3	X4	J-6
IC13	K-5		
IC14	K-4		
IC16	A-4		
IC17	D-4		
IC18	B-6		
IC19	D-6		
IC20	D-3		
IC21	C-7		
IC22	A-2		
IC23	B-2		
IC24	B-7		
IC25	F-4		
IC26	H-4		
IC27	F-6		
IC28	J-6		
IC29	H-7		
IC30	G-7		
IC31	E-7		
IC32	K-7		
IC33	C-2		
IC34	D-2		
IC35	G-3		
IC36	E-2		
IC40	B-5		

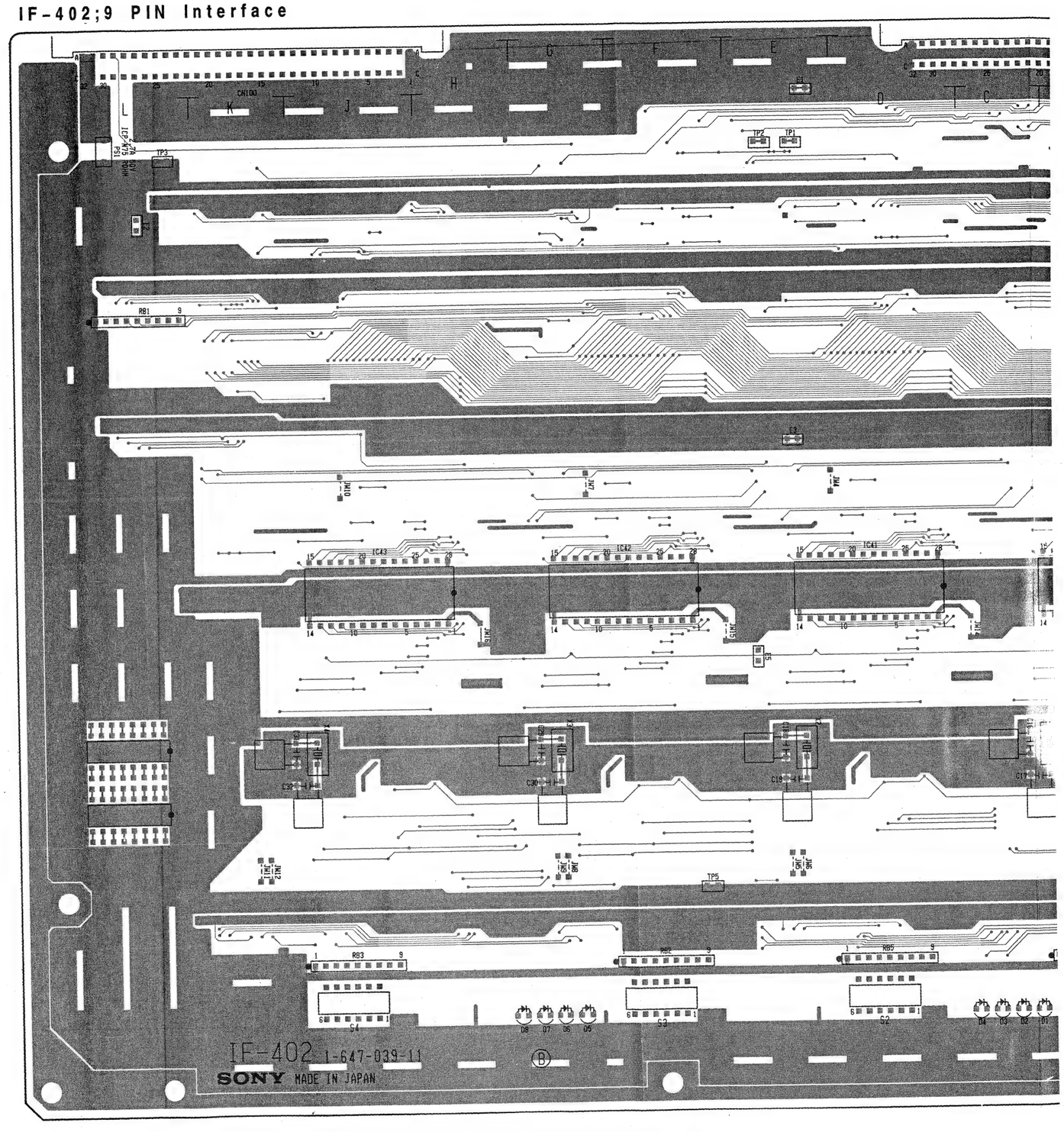


IF-402 -A SIDE
1-647-039-11
BKE-2020

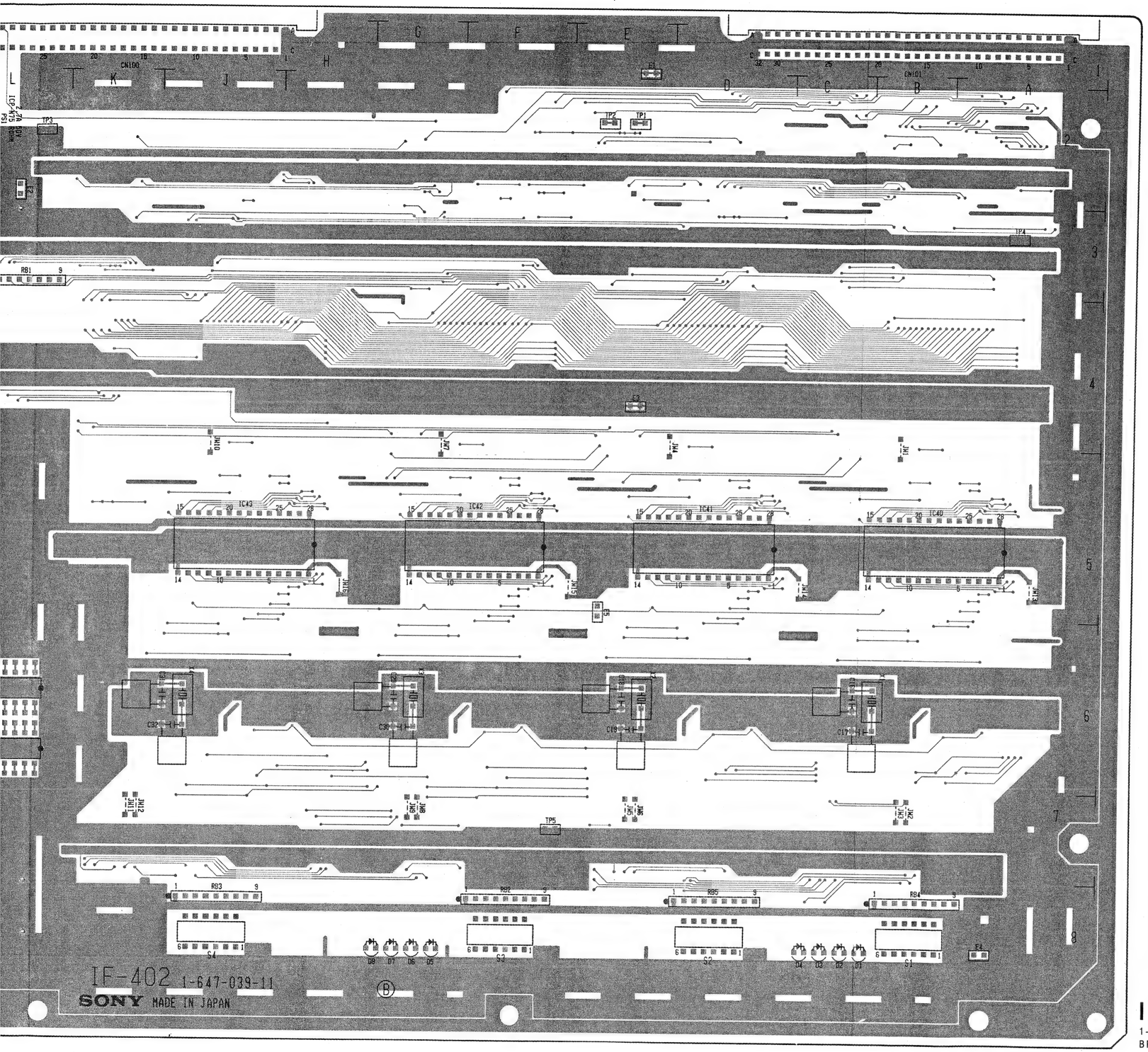


IF-402 -A SIDE-
1-647-039-11
BKE-2020

IF-402;9 PIN Interface



) PIN Interface

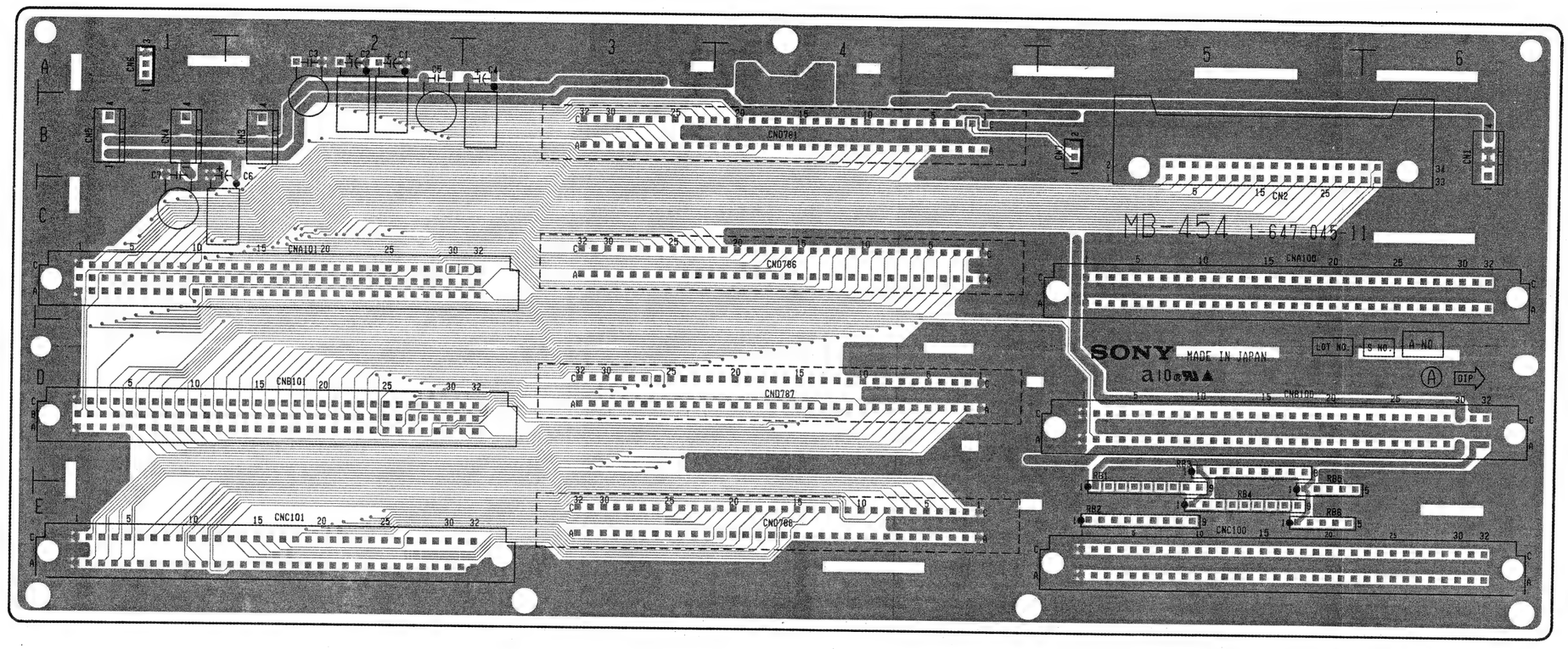


IF-402 -B SIDE-
1-647-039-11
BKE-2020

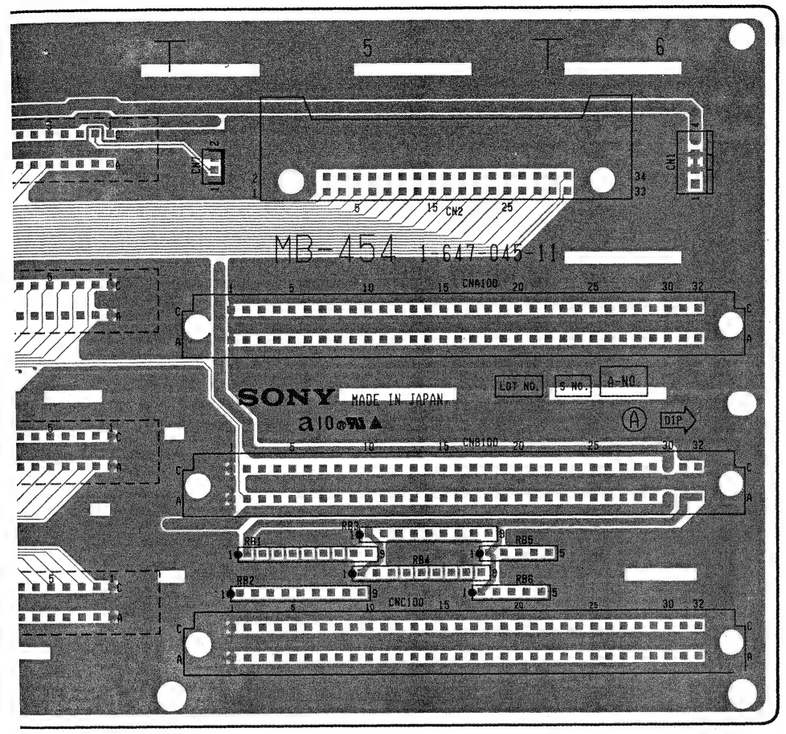
IF-402(1-647-039-11)

CNI40	B-5	IC41	D-5
CNI41	D-5	IC42	F-5
CNI42	F-5	IC43	J-5
CNI43	J-5		
		JW1	B-4
CN100	K-1	JW4	D-4
CN101	B-1	JW7	G-4
		JW10	J-4
D1	C-8		
D2	C-8	PS1	L-2
D3	C-8		
D4	C-8	RB1	L-3
D5	G-8	RB2	F-8
D6	G-8	RB3	J-8
D7	G-8	RB4	B-7
D8	G-8	RB5	D-7
E1	E-1	S1	B-8
E2	L-2	S2	D-8
E3	E-4	S3	F-8
E4	A-8	S4	J-8
E5	E-5		
		TP1	E-2
IC1	H-2	TP2	E-2
IC2	J-2	TP3	L-2
IC3	K-2	TP4	A-3
IC4	J-3	TP5	F-7
IC6	K-3		
IC7	L-3	X1	B-6
IC9	G-2	X2	E-6
IC10	F-2	X3	G-6
IC11	F-3	X4	J-6
IC13	K-5		
IC14	K-4		
IC16	A-4		
IC17	D-4		
IC18	B-6		
IC19	D-6		
IC20	D-3		
IC21	C-7		
IC22	A-2		
IC23	B-2		
IC24	B-7		
IC25	F-4		
IC26	H-4		
IC27	F-6		
IC28	J-6		
IC29	H-7		
IC30	G-7		
IC31	E-7		
IC32	K-7		
IC33	C-2		
IC34	D-2		
IC35	G-3		
IC36	E-2		
IC40	B-5		

MB-454;Mother board

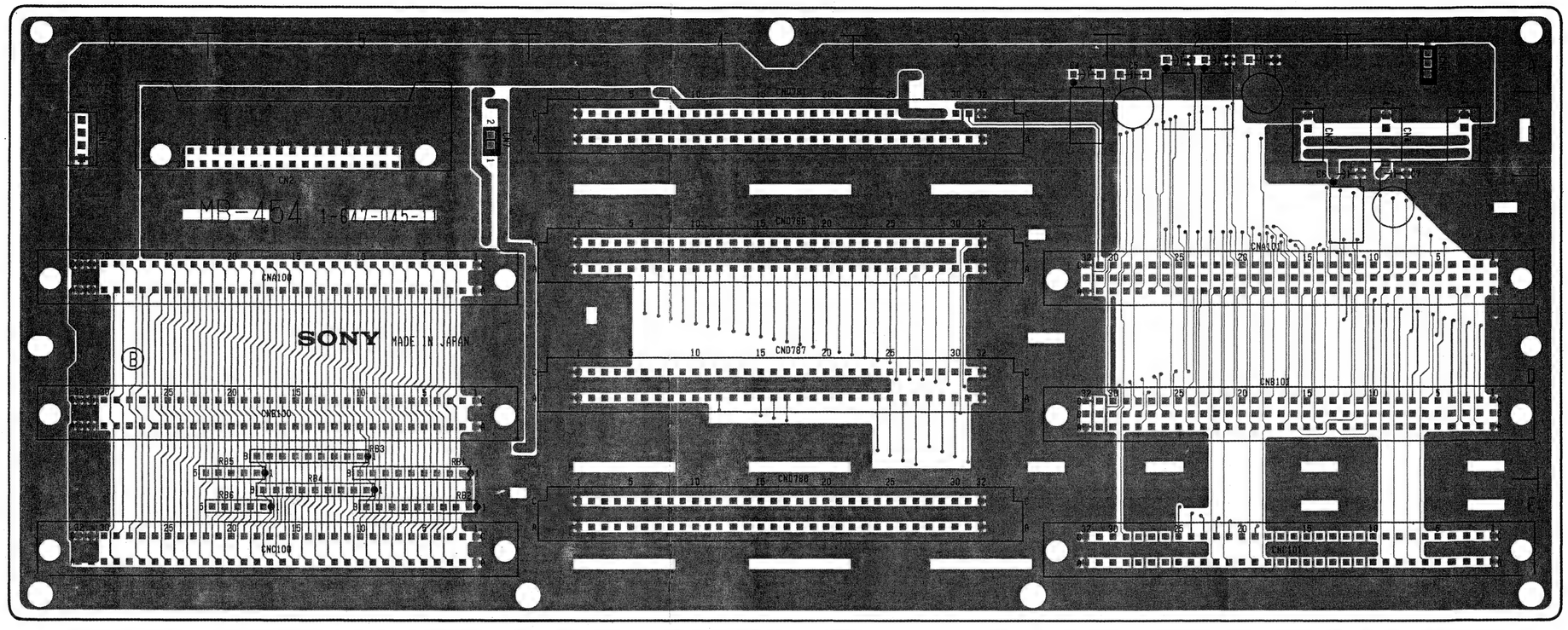


MB-454 -A SIDE-
1-647-045-11
BVE-2000



MB-454 -A SIDE-
1-647-045-11
BVE-2000

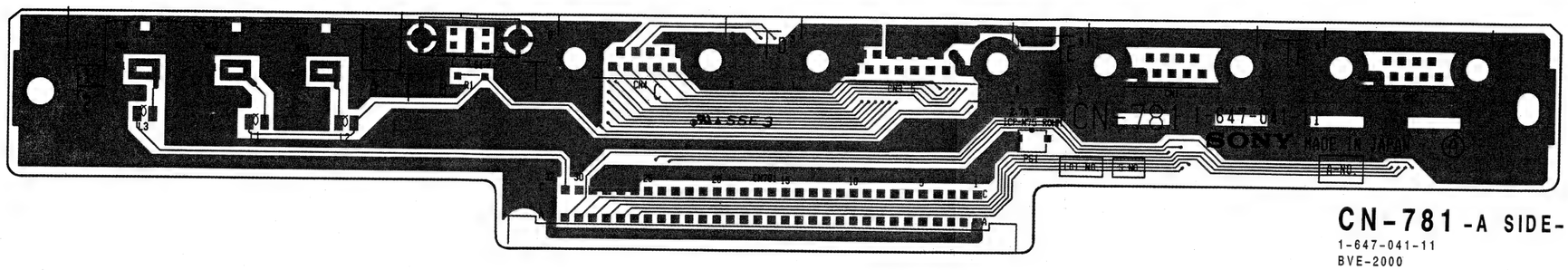
MB-454;Mother board



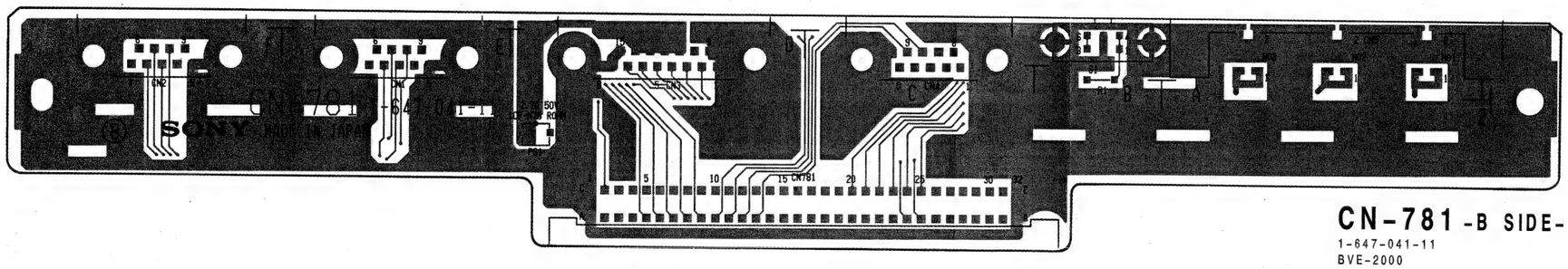
MB-454 -B SIDE-
1-647-045-11
BVE-2000

3-11

CN-781;Connector



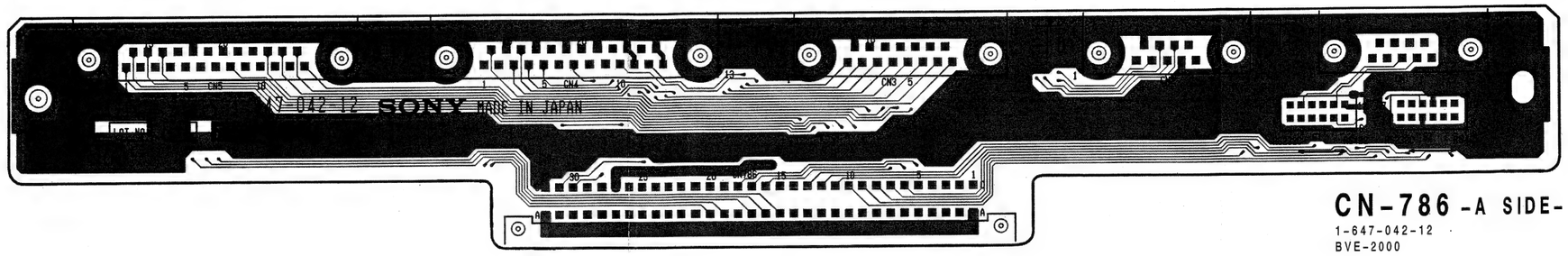
CN-781 -A SIDE-



CN-781 -B SIDE-

3-12

CN-786;Connector

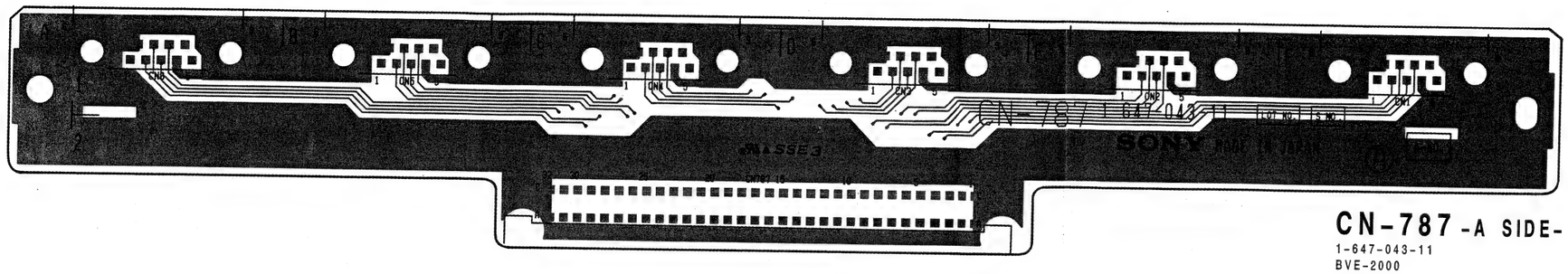


CN-786 -A SIDE-
1-647-042-12
BVE-2000

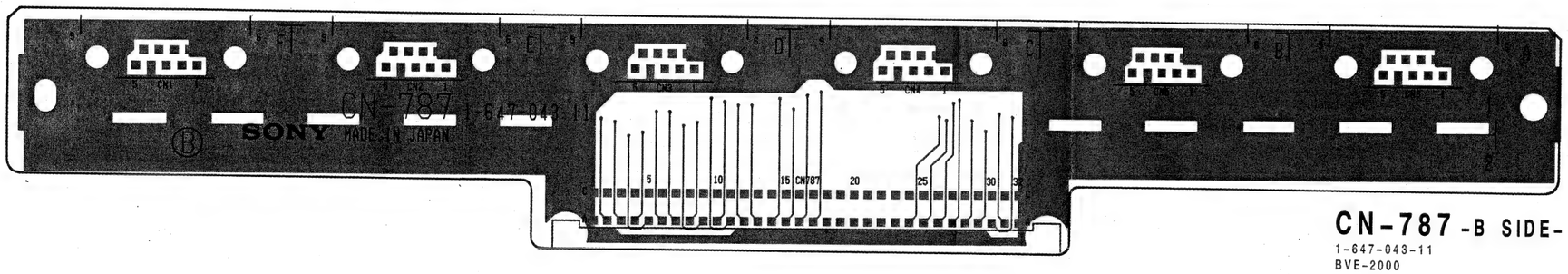
CN-786 -B SIDE-
1-647-042-12
BVE-2000

3-13

CN-787;Connector



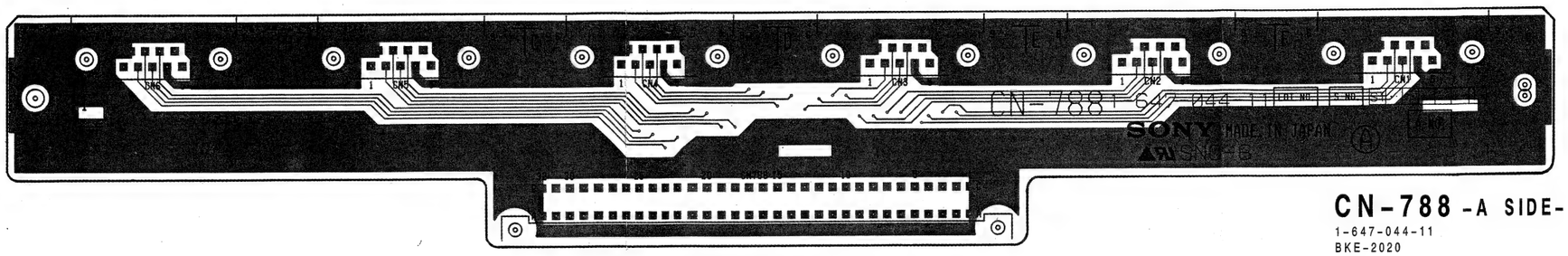
CN-787 -A SIDE-
1-647-043-11
BVE-2000



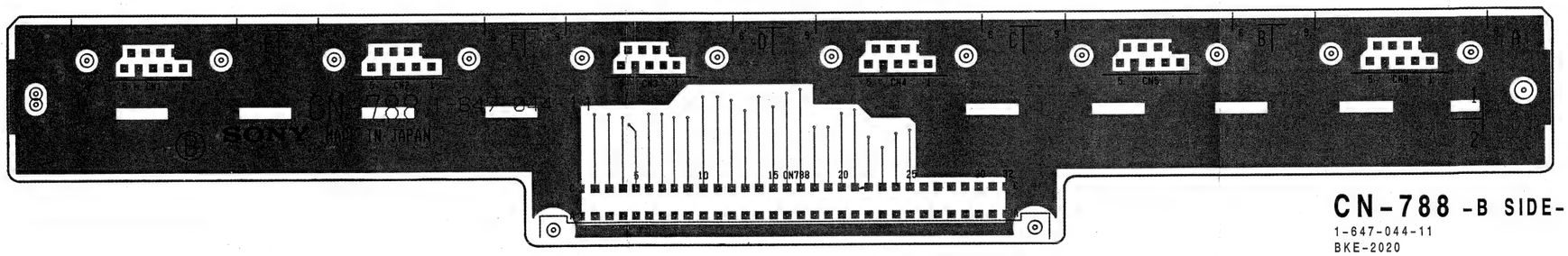
CN-787 -B SIDE-
1-647-043-11
BVE-2000

3-14

CN-788;Connector



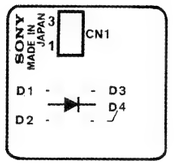
CN-788 -A SIDE-
1-647-044-11
BKE-2020



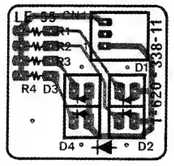
CN-788 -B SIDE-
1-647-044-11
BKE-2020

3-15

LE-55;Power Indicator



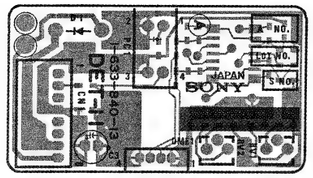
LE-55 -A SIDE-
1-620-338-11
BVE-2000



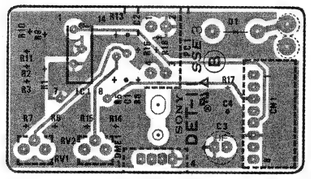
LE-55 -B SIDE-
1-620-338-11
BVE-2000

3-16

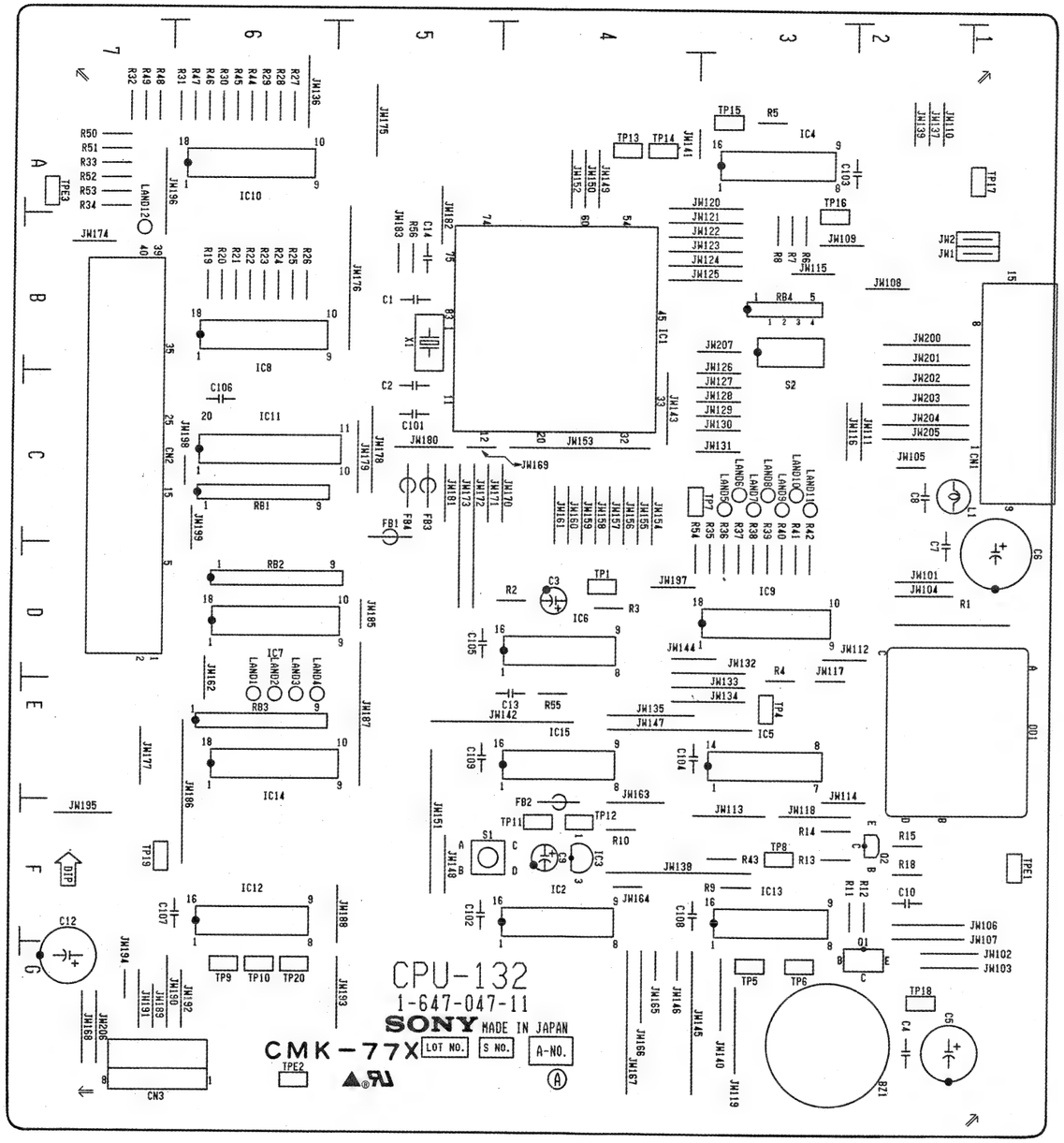
DET-11;Search Dial Detector CPU-132;Keyboard Controller



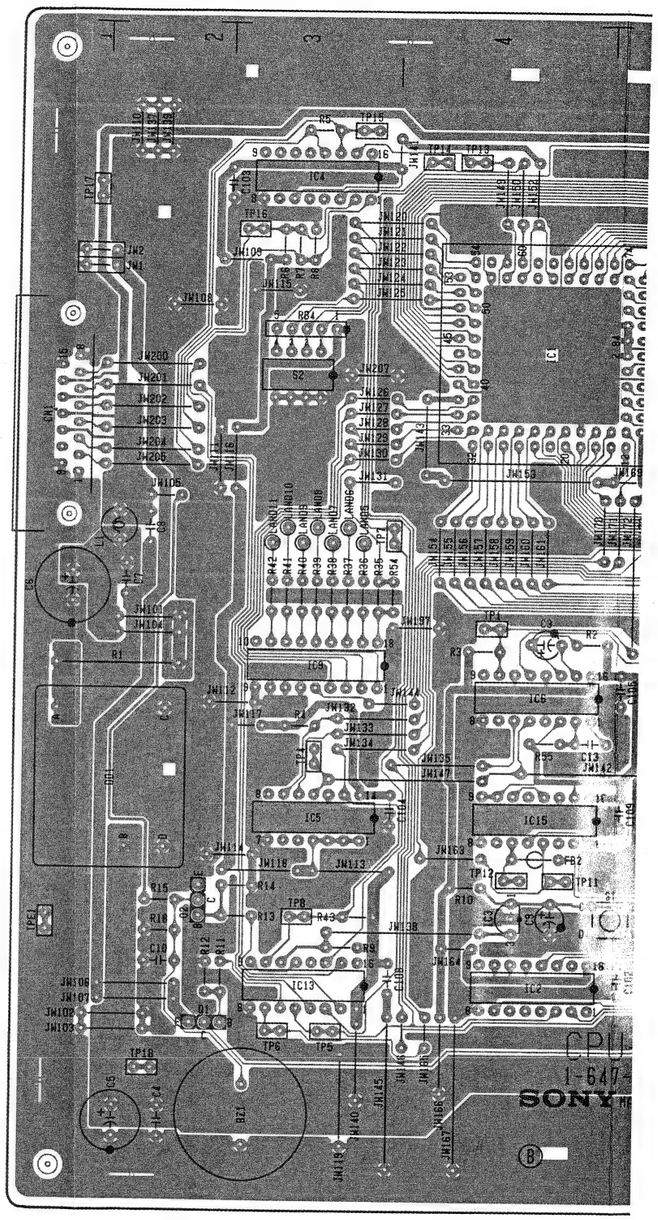
DET-11 -A SIDE-
1-633-840-13
BKE-2010

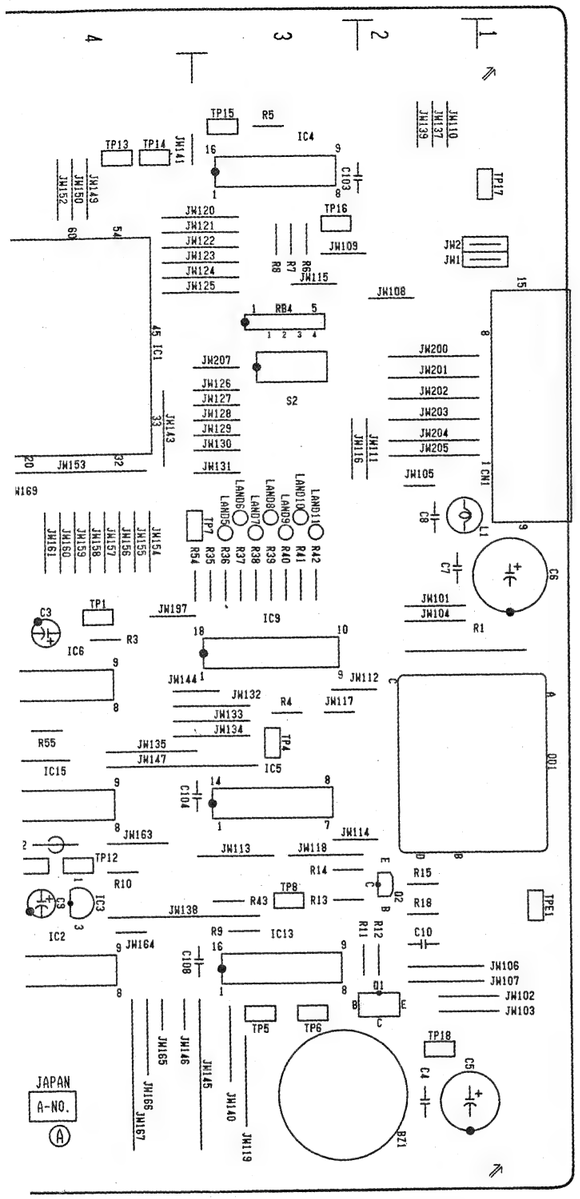


DET-11 -B SIDE-
1-633-840-13
BKE-2010

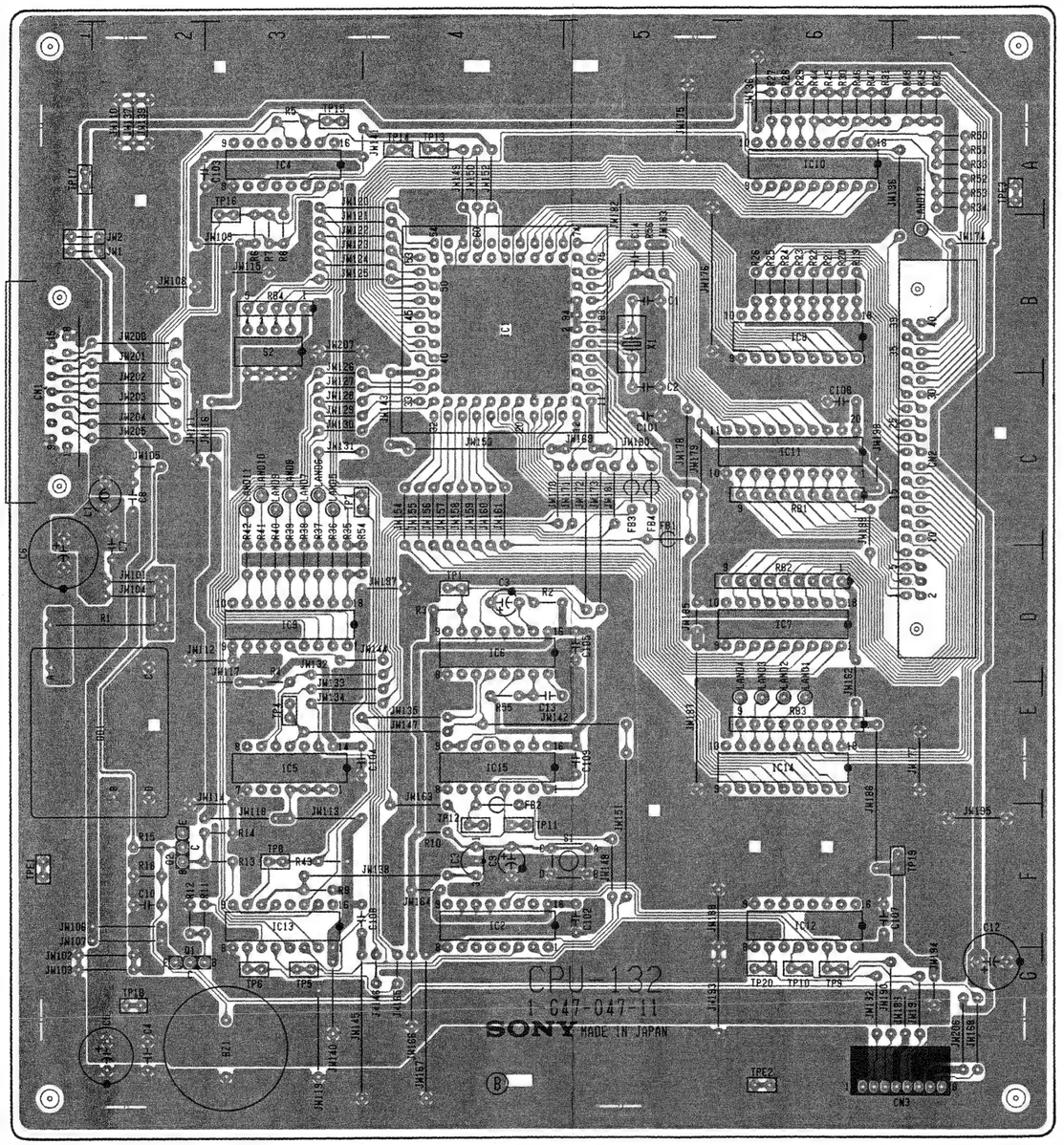


CPU-132 -A SIDE-
1-647-047-11
BKE-2010





CPU-132 -A SIDE-
1-647-047-11
BKE-2010



CPU-132 -B SIDE-
1-647-047-11
BKE-2010

CPU-132(1-647-047-11)

DD1	E-1	JW132	D-3	JW189	G-7
		JW133	E-3	JW190	G-6
FB1	C-5	JW134	E-3	JW191	G-7
FB2	F-4	JW135	E-4	JW192	G-6
FB3	C-5	JW136	A-6	JW193	G-5
FB4	C-5	JW137	A-2	JW194	G-7
		JW138	F-4	JW195	F-7
IC1	B-4	JW139	A-2	JW196	A-7
IC2	F-4	JW140	G-3	JW197	D-4
IC3	F-4	JW141	A-4	JW198	C-6
IC4	A-3	JW142	E-4	JW199	C-6
IC5	E-3	JW143	C-4	JW200	B-2
IC6	D-4	JW144	D-4	JW201	B-2
IC7	D-6	JW145	G-3	JW202	C-2
IC8	B-6	JW146	G-4	JW203	C-2
IC9	D-3	JW147	E-4	JW204	C-2
IC10	A-6	JW148	F-5	JW205	C-2
IC11	C-6	JW149	A-4	JW206	G-7
IC12	F-6	JW150	A-4	JW207	B-3
IC13	F-3	JW151	F-5		
IC14	E-6	JW152	A-4	Q1	F-2
IC15	E-4	JW153	C-4	Q2	F-2
		JW154	C-4		
JW1	B-2	JW155	C-4	RB1	C-6
JW2	B-2	JW156	C-4	RB2	D-6
JW101	D-2	JW157	C-4	RB3	E-6
JW102	G-1	JW158	C-4	RB4	B-3
JW103	G-1	JW159	C-4		
JW104	D-2	JW160	C-4	S1	F-5
JW105	C-2	JW161	C-4	S2	C-3
JW106	F-1	JW162	E-6		
JW107	F-1	JW163	E-4	TPE1	F-1
JW108	B-2	JW164	F-4	TPE2	G-6
JW109	B-3	JW165	G-4	TPE3	A-7
JW110	A-2	JW166	G-4		
JW111	C-2	JW167	G-4	TP1	D-4
JW112	D-2	JW168	G-7	TP4	E-3
JW113	F-3	JW169	C-4	TP5	G-3
JW114	E-3	JW170	C-4	TP6	G-3
JW115	B-3	JW171	C-5	TP7	C-3
JW116	C-3	JW172	C-5	TP8	F-3
JW117	D-3	JW173	C-5	TP9	G-6
JW118	F-3	JW174	B-7	TP10	G-6
JW119	G-3	JW175	B-5	TP11	F-4
JW120	A-3	JW176	B-5	TP12	F-4
JW121	B-3	JW177	E-7	TP13	A-4
JW122	B-3	JW178	C-5	TP14	A-4
JW123	B-3	JW179	C-5	TP15	A-3
JW124	B-3	JW180	C-5	TP16	A-3
JW125	B-3	JW181	C-5	TP17	A-1
JW126	B-3	JW182	B-5	TP18	G-2
JW127	C-3	JW183	B-5	TP19	F-7
JW128	C-3	JW185	D-5	TP20	G-6
JW129	C-3	JW186	E-6		
JW130	C-3	JW187	E-5	X1	B-5
JW131	C-3	JW188	F-5		

SECTION 4
SEMICONDUCTOR PIN ASSIGNMENTS

ここに記載されているIC, トランジスタ, ダイオードは, それぞれの機能を等価的に表したものです。したがって互換性を表すものではありません。(互換性のない型名が併記されている事もあります。) 部品の交換をする時は, SPARE PARTSの章を参照してください。

ICs, transistors and diodes of which functions are equivalent are described here. Therefore, incompatible device names may be described together. For parts replacement, refer to the Spare Parts section in this manual.

IC	PAGE
74AC157SJ	4-2
AM26LS31CNS	4-2
AM26LS32ACNS	4-2
BX365AL	4-2
CX23028	4-2
CXD1095Q	4-3
CXD1216M	4-4
CXD1217M	4-4
CXK5864BM-12L	4-5
DS1005-100	4-3
HD63265FP	4-6
HD641180XF6	4-6
HD64718XOCP6	4-8
HM628128LFP-10	4-10
LM1881N	4-9
M27C4002-12F1	4-10
M54513P	4-9
MAX232N	4-11
MB4002PF	4-11
MB8421-90LPFQ	4-11
MB86023	4-12
MB89322APFQ	4-12
MC14049UBF	4-11
MC14069UBF	4-11
MC14538BCP	4-13
MC34051P	4-13
MC74HC147F	4-11
MC74HC540N	4-13
NJM78L09A	4-13
NJM79L05A	4-13
NJM79L09A	4-13
PST529C	4-13
PST529H	4-13
RF5C15	4-14
SM6430C	4-13

IC	PAGE
SN74ALS00ANS	4-13
SN74ALS04BNS	4-14
SN74ALS08NS	4-14
SN74ALS10ANS	4-14
SN74ALS138NS	4-15
SN74ALS163BNS	4-14
SN74ALS32NS	4-15
SN74ALS541NS	4-15
SN74HC00ANS	4-15
SN74HC02ANS	4-15
SN74HC04ANS	4-15
SN74HC05ANS	4-15
SN74HC08ANS	4-15
SN74HC10ANS	4-16
SN74HC112ANS	4-16
SN74HC11ANS	4-16
SN74HC138ANS	4-16
SN74HC139ANS	4-16
SN74HC147NS	4-16
SN74HC14ANS	4-16
SN74HC157ANS	4-2
SN74HC161ANS	4-17
SN74HC164ANS	4-17
SN74HC166ANS	4-17
SN74HC175ANS	4-18
SN74HC193AN	4-17
SN74HC193ANS	4-17
SN74HC20ANS	4-18
SN74HC245ANS	4-18
SN74HC251ANS	4-18
SN74HC266NS	4-18
SN74HC273ANS	4-18
SN74HC32ANS	4-19
SN74HC367ANS	4-19
SN74HC393ANS	4-19
SN74HC4075ANS	4-19
SN74HC4078BNS	4-19
SN74HC540ANS	4-13
SN74HC541ANS	4-19
SN74HC573BNS	4-20
SN74HC574ANS	4-20
SN74HC74AN	4-20
SN74HC74ANS	4-20
SN74HCT540ANS	4-13
SN74HCU04ANS	4-15
SN74LS03NS	4-20

IC	PAGE
SN74LS06NS	4-20
SN74LS123NS	4-20
SN74LS221NS	4-20
SN75207BNS	4-21
TC4049BP	4-11
TC74AC574F	4-20
TC74HC221AF	4-21
TC74HC86AF	4-21
TL062CPS	4-21
TL082CPS	4-21
TL084CNS	4-21
TMP68301F-12	4-22
TMS27C256-20JL	4-21
TMS27C512-15JL	4-23
UPC393C	4-23
UPD71054GB-10-3B4	4-23
UPD71059GB-10-3B4	4-24
UPD71071GC3B6	4-24
X2816CP-20	4-21

TRASISTOR	PAGE
2SA1175	4-25
2SC1815	4-25
2SC2785	4-25
2SD774-34	4-25
2SK523	4-25

DIODE

10E-2	4-25
1S1588	4-25
1SS119	4-25
1SS168	4-25
1SS97	4-25
EBR5534S	4-25
ERB81-004	4-25
PY5504S	4-25
RD??ESB?	4-25
TLG124A	4-25
TLG223	4-25
TLO124	4-25
TLY123	4-25

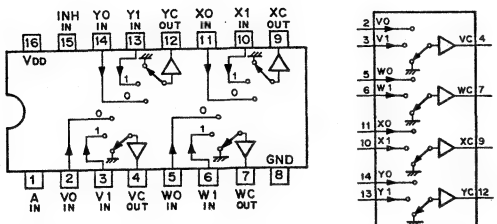
OTHERS

DM211A	4-25
TLP801A	4-25

IC

74AC157SJ (NS) FLAT PACKAGE
SN74HC157ANS (TI) FLAT PACKAGE

C-MOS QUAD 2-LINE-TO-1-LINE DATA SELECTOR/MULTIPLEXER
– TOP VIEW –



NOTE :

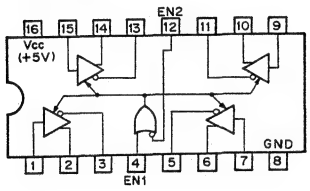
TYPE	VDD
74ACT157	+5V
TC74AC157P TC74AC157F	+2 to +5.5V
OTHER TYPES	+2 to +6V

CONT. IN		ON CHANNEL
INH	A	
0	0	0
0	1	1
1	X	GND

0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE

AM26LS31CNS (TI) FLAT PACKAGE

HIGH SPEED DIFFERENTIAL LINE DRIVER
– TOP VIEW –

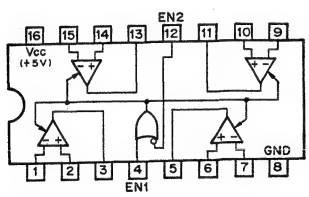


FUNCTION TABLE		
EN2	EN1	OUTPUT
0	0	ENABLE
0	1	ENABLE
1	0	HI-Z
1	1	ENABLE

0 ; LOW LEVEL
1 ; HIGH LEVEL
HI-Z ; HIGH IMPEDANCE

AM26LS32ACNS (TI) FLAT PACKAGE

HIGH SPEED DIFFERENTIAL LINE RECEIVER
– TOP VIEW –



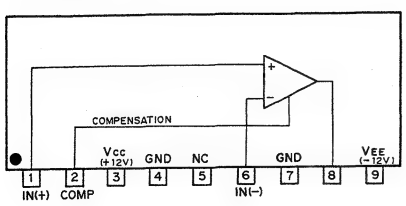
FUNCTION TABLE		
EN2	EN1	OUTPUT
0	0	ENABLE
0	1	ENABLE
1	0	HI-Z
1	1	ENABLE

0 ; LOW LEVEL
1 ; HIGH LEVEL
HI-Z ; HIGH IMPEDANCE

	SENSE	INPUT VOLT
LS32	±200mV	±7V
LS33	±500mV	±15V

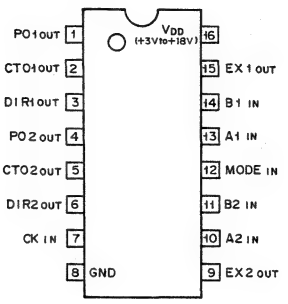
BX365AL (ROHM)

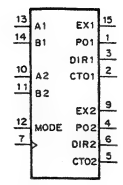
VIDEO AMPLIFIER
– SIDE VIEW –



CX23028 (SONY)

C-MOS SYNCHRONOUS ROTATIONAL DIRECTION DETECTOR
– TOP VIEW –





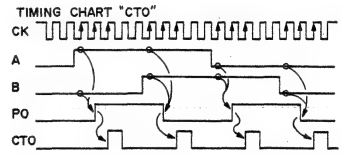
A,B ; SIGNAL INPUTS
EX ; A⊕B
PO ; A⊕B(SYNCHRONOUS)
DIR ; DIRECTION OUTPUT
CTO ; COUNT PULSE OUTPUT
MODE ; DIR1 & CTO1 MODE SELECT
⊕ ; EXCLUSIVE-OR

MODE="1"

DIRECTION OUTPUT "DIR"

INPUTS	DIR
A∠B	1
B∠A	0

TIMING CHART "CTO"



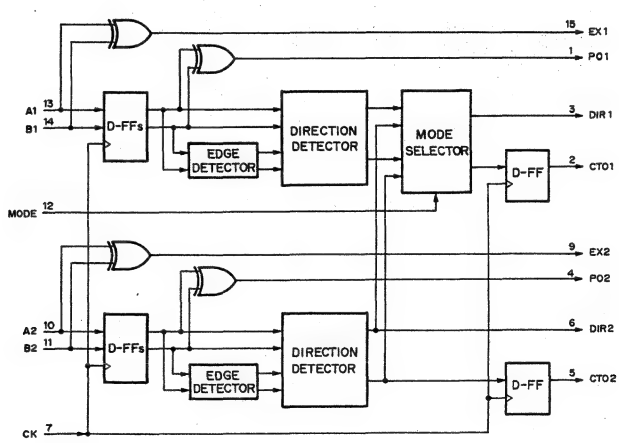
MODE="0"

DIRECTION OUTPUT "DIR"

INPUTS		DIR 1	DIR 2
CH1	CH2		
A∠B1	A2∠B2	1	THE SAME FUNCTION OF MODE "1"
B1∠A1	A2∠B2	OUTPUT "1" AND "0" ALTERNATELY	
A1∠B1	B2∠A2		
B1∠A1	B2∠A2	0	

CTO 1 ; CTO 1 with MODE "0" = CTO 1 with MODE "1" + CTO 2
CTO 2 ; THE SAME FUNCTION OF MODE "1"

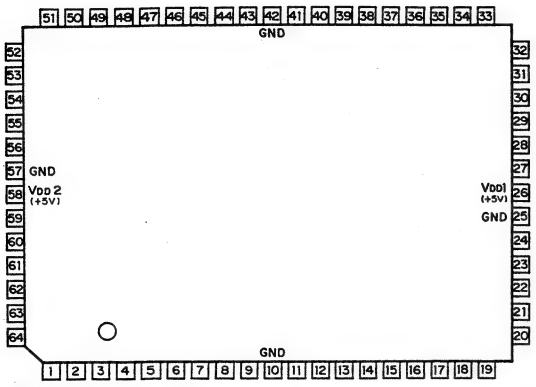
1 ; HIGH LEVEL
0 ; LOW LEVEL
A∠B ; THE PHASE OF SIGNAL A IS IN ADVANCE FOR THE PHASE OF B.



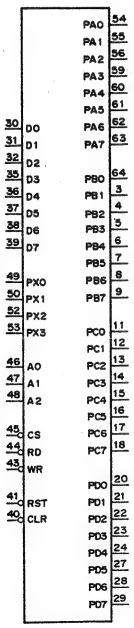
CXD1095Q (SONY) FLAT PACKAGE

C-MOS I/O PORT EXPANDER

– TOP VIEW –



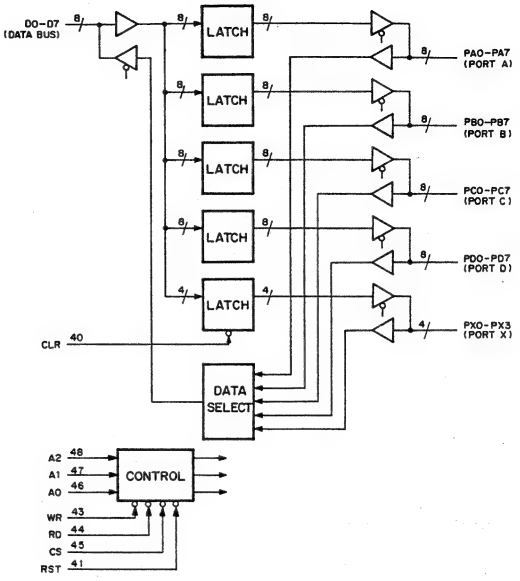
PIN NO.	IN	OUT	SYMBOL	PIN NO.	IN	OUT	SYMBOL	PIN NO.	IN	OUT	SYMBOL	PIN NO.	IN	OUT	SYMBOL
1			NC	17	O	O	PC6	33			NC	49	O	O	PX0
2			NC	18	O	O	PC7	34			NC	50	O	O	PX1
3	O	O	PB1	19			NC	35	O	O	D3	51			NC
4	O	O	PB2	20	O	O	PD0	36	O	O	D4	52	O	O	PX2
5	O	O	PB3	21	O	O	PD1	37	O	O	D5	53	O	O	PX3
6	O	O	PB4	22	O	O	PD2	38	O	O	D6	54	O	O	PA0
7	O	O	PB5	23	O	O	PD3	39	O	O	D7	55	O	O	PA1
8	O	O	PB6	24	O	O	PD4	40	O		CLR	56	O	O	PA2
9	O	O	PB7	25			GND	41	O		RST	57			GND
10			GND	26	O		VDD (+5V)	42			GND	58	O		VDD (+5V)
11	O	O	PC0	27	O	O	PD5	43	O		WR	59	O	O	PA3
12	O	O	PC1	28	O	O	PD6	44	O		RD	60	O	O	PA4
13	O	O	PC2	29	O	O	PD7	45	O		CS	61	O	O	PA5
14	O	O	PC3	30	O	O	D0	46	O		A0	62	O	O	PA6
15	O	O	PC4	31	O	O	D1	47	O		A1	63	O	O	PA7
16	O	O	PC5	32	O	O	D2	48	O		A2	64	O	O	PB0



CS	RD	WR	A2	A1	A0	MODE
0	0	1	0	0	0	PORT A→DATA BUS
0	0	1	0	0	1	PORT B→DATA BUS
0	0	1	0	1	0	PORT C→DATA BUS
0	0	1	0	1	1	PORT D→DATA BUS
0	0	1	1	0	0	PORT X→DATA BUS
0	0	1	1	0	1	——
0	0	1	1	1	0	——
0	0	1	1	1	1	——
0	1	0	0	0	0	DATA BUS→PORT A
0	1	0	0	0	1	DATA BUS→PORT B
0	1	0	0	1	0	DATA BUS→PORT C
0	1	0	0	1	1	DATA BUS→PORT D
0	1	0	1	0	0	DATA BUS→PORT X
0	1	0	1	0	1	——
0	1	0	1	1	0	DATA BUS→CTL REG.1
0	1	0	1	1	1	DATA BUS→CTL REG.2
1	X	X	X	X	X	DATA BUS ; HI-Z

0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE
HI-Z, HIGH IMPEDANCE

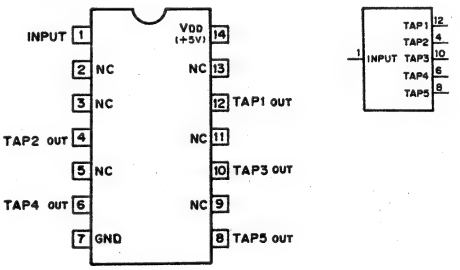
DO–D7 ; DATA BUS INPUTS/OUTPUTS
CS ; CHIP SELECT INPUT
RD ; READ STROBE INPUT
WR ; WRITE STROBE INPUT
A0–A2 ; ADDRESS INPUT
RST ; RESET INPUT
CLR ; CLEAR INPUT
PA0–PA7 ; PORT A INPUTS/OUTPUTS
PB0–PB7 ; PORT B INPUTS/OUTPUTS
PC0–PC7 ; PORT C INPUTS/OUTPUTS
PD0–PD7 ; PORT D INPUTS/OUTPUTS
PX0–PX3 ; PORT X INPUTS/OUTPUTS

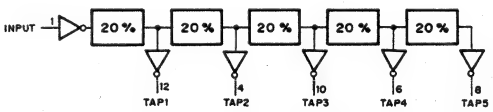


DS1005-100 (DALLAS SEMICONDUCTOR) (DELAY TIME = 100nS)

C-MOS DELAY LINE

– TOP VIEW –



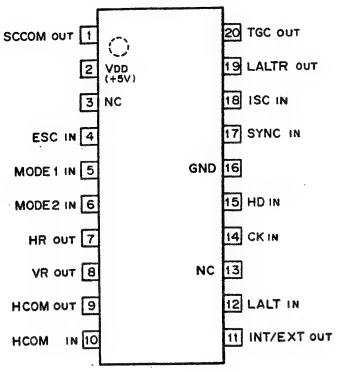


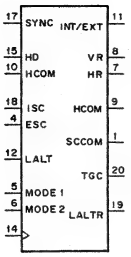
TYPE. NO.	DELAY TIME (ns)				
	TAP1	TAP2	TAP3	TAP4	TAP5
DS1005-60	12	– 24	36	48	60
DS1005-75	15	30	45	60	75
DS1005-100	20	40	60	80	100
DS1005-125	25	50	75	100	125
DS1005-150	30	60	90	120	150
DS1005-175	35	70	105	140	175
DS1005-200	40	80	120	160	200
DS1005-250	50	100	150	200	250

CXD1216M (SONY) FLAT PACKAGE

C-MOS GENLOCK DRIVER

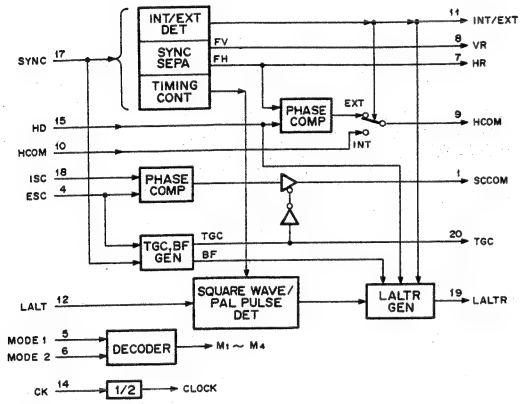
– TOP VIEW –





INPUT		MODE	SYSTEM
MODE1	MODE2		
0	0	M1	PAL-VBS
1	0	M2	PALM-VBS
0	1	M3	PAL,SECAM-VS/SC/LALT
1	1	M4	NTSC-VBS,NTSC-VS/SC PALM-VS/SC/LALT

0 ; LOW LEVEL
1 ; HIGH LEVEL



INPUT

CK	; 4fsc CLOCK INPUT
ESC	; SC/COLOR BURST
HCOM	; PHASE COMPARATE FROM CXD1217
HD	; H DRIVE FROM CXD1217
ISC	; SUBCARRIER FROM CXD1217
LALT	; LALT FROM REFERENCE SIGNAL GENERATOR
MODE1,2	; SYSTEM SELECT
SYNC	; SYNC FROM REFERENCE SIGNAL GENERATOR

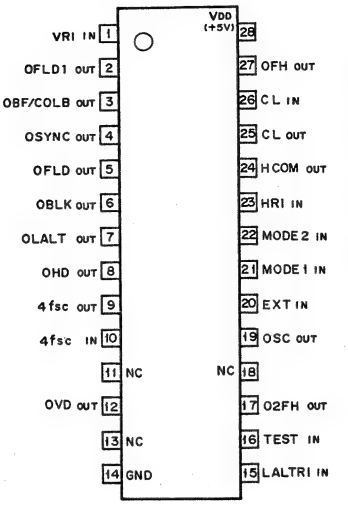
OUTPUT

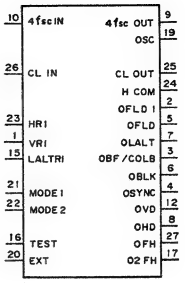
HCOM	; PHASE COMPARATOR HR WITH HD
HR	; fH OF SYNC SEPARATE
INT/EXT	; INTERNAL/EXTERNAL SPECIFIED
LALTR	; LINE CHANGE RESET
SCCOM	; PHASE COMPARATOR ESC WITH ISC
TGC	; TRISTATE CONTROL
VR	; fV OF SYNC SEPARATE

CXD1217M (SONY) FLAT PACKAGE

C-MOS SYNC GENERATOR

– TOP VIEW –

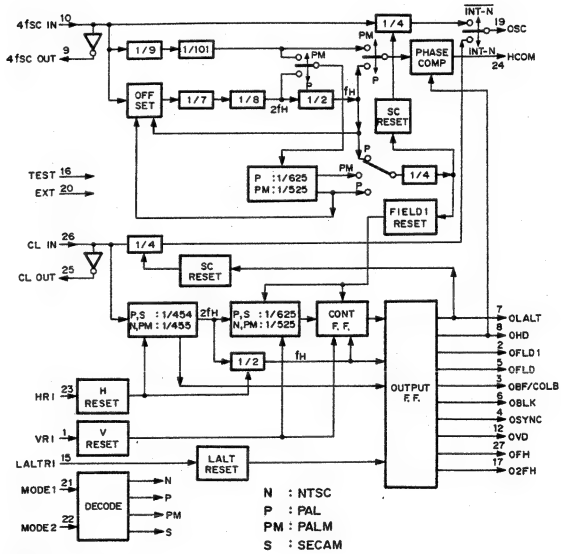




SYSTEM	4fsc	CLOCK
NTSC	910fH	910fH
PAL	1135fH+2fV	908fH
PALM	909fH	910fH
SECAM	—	908fH

INPUT		SYSTEM
MODE1	MODE2	
0	0	NTSC
0	1	SECAM
1	0	PALM
1	1	PAL

0 ; LOW LEVEL
1 ; HIGH LEVEL

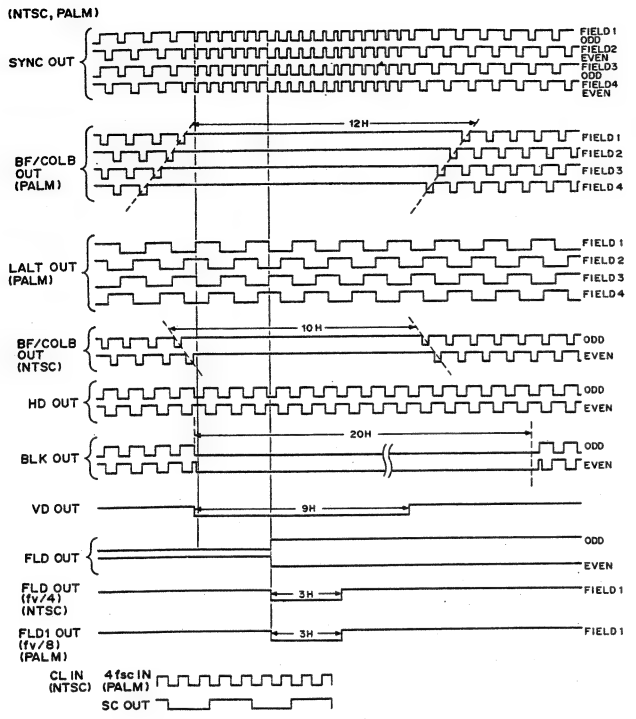


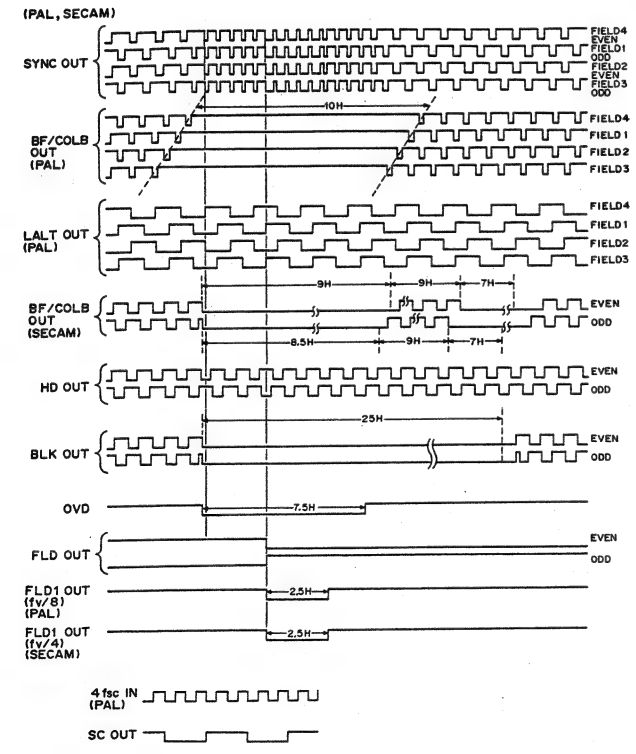
INPUT

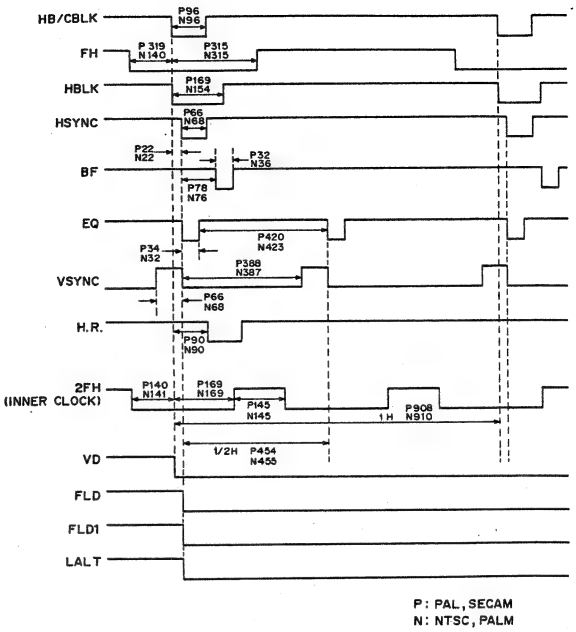
4fSC IN	; 4fSC INPUT
CL IN	; CLOCK INPUT
EXT	; SYNC MODE SELECT (L ; INTERNAL/H ; EXTERNAL)
HRI	; H RESET
LALTRI	; LINE CHANGE RESET
MODE 1,2	; SYSTEM SELECT
VRI	; V RESET

OUT PUT

4fSC OUT	; 4fSC OUTPUT
CL OUT	; CLOCK OUTPUT
HCOM	; PHASE COMPARATOR
O2fH	; 2fH OUTPUT
OBF/COLB	; BURST FLAG/COLOR BLANKING
OBLK	; COMPOSITE BLANKING
OFH	; H FREQUENCE
OFLD	; EVEN, ODD
OFLD1	; FIELD1
OHD	; H DRIVE
OLALT	; LINE CHANGE
OSC	; SUBCARRIER
OSYNC	; COMPOSITE SYNC
OVD	; V DRIVE





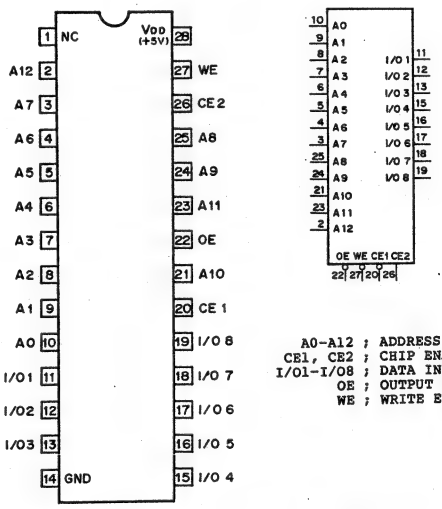


P: PAL, SECAM
N: NTSC, PALM

CXK5864BM-12L (SONY) FLAT PACKAGE

C-MOS 64K (8192x8)-BIT STATIC RAM

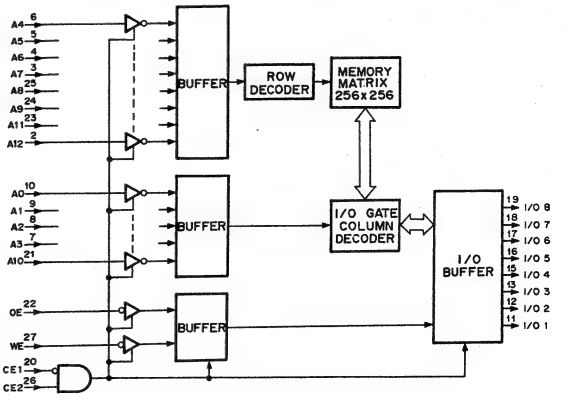
– TOP VIEW –



A0–A12 ; ADDRESS INPUT
CE1, CE2 ; CHIP ENABLE INPUT
I/O1–I/O8 ; DATA INPUT/OUTPUT
OE ; OUTPUT ENABLE INPUT
WE ; WRITE ENABLE INPUT

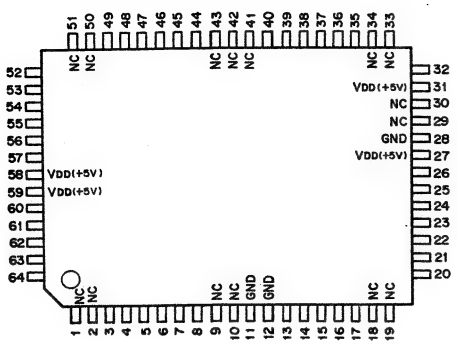
CE1	CE2	OE	WE	MODE	I/O TERMINAL
1	X	X	X	NOT SELECT	HIGH IMPEDANCE
X	0	X	X	NOT SELECT	HIGH IMPEDANCE
0	1	1	1	OUTPUT DISABLE	HIGH IMPEDANCE
0	1	0	1	READ	OUTPUT DATA
0	1	X	0	WRITE	INPUT DATA

0;LOW LEVEL
1;HIGH LEVEL
X;DON'T CARE



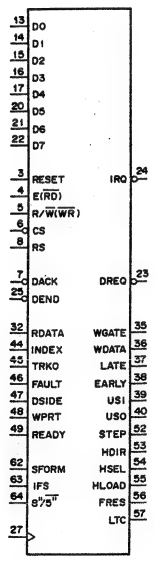
HD63265FP (HITACHI)

C-MOS FDC (FLOPPY DISK CONTROLLER)
– TOP VIEW –



(V_{DD} = +5V)

PIN NO.	I/O	FUNCTION	PIN NO.	I/O	FUNCTION	PIN NO.	I/O	FUNCTION	PIN NO.	I/O	FUNCTION
1	–	NC	17	I/O	D4	33	–	NC	49	I	READY
2	–	NC	18	–	NC	34	–	NC	50	–	NC
3	I	RESET	19	–	NC	35	O	WGATE	51	–	NC
4	I	E(RD)	20	I/O	D5	36	O	WDATA	52	I	STEP
5	I	R/W(WR)	21	I/O	D6	37	O	LATE	53	I	HDIR
6	I	CS	22	I/O	D7	38	O	EARLY	54	I	HSEL
7	I	DACK	23	O	DREQ	39	O	US1	55	I	HLOAD
8	I	RS	24	O	IRQ	40	O	US0	56	I	FRES
9	–	NC	25	I	DEND	41	–	NC	57	I	LCT
10	–	NC	26	–	V_{DD}	42	–	NC	58	–	V_{DD}
11	–	GND	27	I	CK	43	–	NC	59	–	V_{DD}
12	–	GND	28	–	GND	44	I	INDEX	60	I	NUM1
13	I/O	D0	29	–	NC	45	I	TRK0	61	I	NUM2
14	I/O	D1	30	–	NC	46	I	FAULT	62	I	SFORM
15	I/O	D2	31	–	V_{DD}	47	I	DSIDE	63	I	IFS
16	I/O	D3	32	I	RDATA	48	I	WPRT	64	I	8"/5"



INPUT

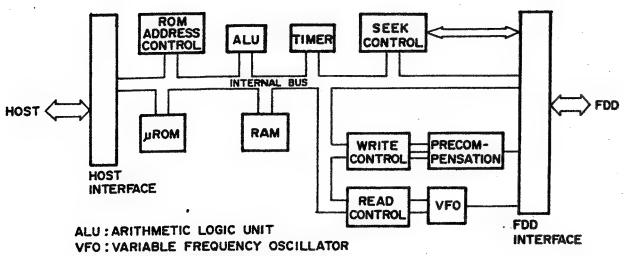
8"/5"	; 8"/5" MODE SELECT
CS	; CHIP SELECT
DACK	; DMA ACKNOWLEDGE
DEND	; DMA END
DSIDE	; DOUBLE SIDED
E (RD)	; ENABLE (READ)
FRES	; FAULT RESET
HDIR	; HEAD DIRECTION
HLOAD	; HEAD LOAD
HSEL	; HEAD SELECT
IFS	; INTERFACE SELECT
LCT	; LOW CURRENT
NUM 1	; NOT USER MODE 1
NUM 2	; NOT USER MODE 2
R/W	; READ/WRITE
RDATA	; READ DATA
RS	; REGISTER SELECT
SFORM	; SELECT FORMATING DATA
TRK0	; TRACK 00
WPRT	; WRITE PROTECTED

OUTPUT

DREQ	; DMA REQUEST
IRQ	; INTERRUPT REQUEST
US 0	; UNIT SELECT 0
US 1	; UNIT SELECT 1
WDATA	; WRITE DATA
WGATE	; WRITE GATE

INPUT/OUTPUT

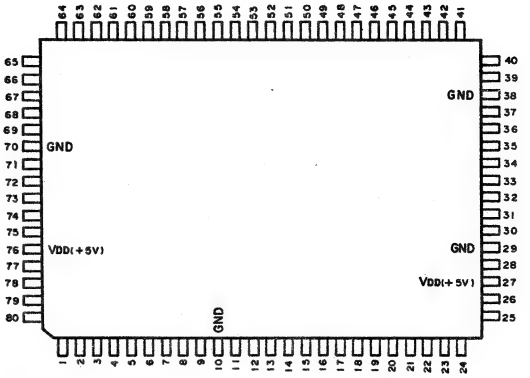
D0-D7	; DATA BUS 0-7



ALU : ARITHMETIC LOGIC UNIT
VFO : VARIABLE FREQUENCY OSCILLATOR

HD641180XF6 (HITACHI)

C-MOS 8-BIT MICRO PROCESSING UNIT
– TOP VIEW –



PIN No.	MODE 0		MODE 1		MODE 2		PROM MODE	
	I/O	SIGNAL	I/O	SIGNAL	I/O	SIGNAL	I/O	SIGNAL
1	I	NMI	I	NMI	I	NMI	O	A9
2	I	INT0	I	INT0	I	INT0	–	NC
3	I	INT1	I	INT1	I	INT1	–	NC
4	I	INT2	I	INT2	I	INT2	–	NC
5	I/O	PE_4	O	ST	O	ST	–	NC
6	I/O	PC0	O	A0	O	A0	O	A0
7	I/O	PC1	O	A1	O	A1	O	A1
8	I/O	PC2	O	A2	O	A2	O	A2
9	I/O	PC3	O	A3	O	A3	O	A3
10	–	GND	–	GND	–	GND	–	GND
11	I/O	PC4	O	A4	O	A4	O	A4
12	I/O	PC5	O	A5	O	A5	O	A5
13	I/O	PC6	O	A6	O	A6	O	A6
14	I/O	PC7	O	A7	O	A7	O	A7
15	I/O	PD0	O	A8	I/O	A8/PD0	O	A8
16	I/O	PD1	O	A9	I/O	A9/PD1	–	NC
17	I/O	PD2	O	A10	I/O	A10/PD2	O	A10
18	I/O	PD3	O	A11	I/O	A11/PD3	O	A11
19	I/O	PD4	O	A12	I/O	A12/PD4	O	A12
20	I/O	PD5	O	A13	I/O	A13/PD5	O	A13
21	I/O	PD6	O	A14	I/O	A14/PD6	O	A14
22	I/O	PD7	O	A15	I/O	A15/PD7	I	OE
23	I/O	PE0	O	A16	I/O	A16/PE0	I	CE
24	I/O	PE1	O	A17	I/O	A17/PE1	–	NC
25	I/O	PE2	O	A18	I/O	A18/PE2	–	NC
26	O	TOUT1	O	TOUT1	O	TOUT1	–	NC
27	–	V_{DD}	–	V_{DD}	–	V_{DD}	–	V_{DD}
28	I/O	PE3	O	A19	I/O	A19/PE3	–	NC
29	–	GND	–	GND	–	GND	–	GND
30	I/O	PF0	I/O	D0	I/O	D0	O	O0
31	I/O	PF1	I/O	D1	I/O	D1	O	O1
32	I/O	PF2	I/O	D2	I/O	D2	O	O2
33	I/O	PF3	I/O	D3	I/O	D3	O	O3
34	I/O	PF4	I/O	D4	I/O	D4	O	O4
35	I/O	PF5	I/O	D5	I/O	D5	O	O5
36	I/O	PF6	I/O	D6	I/O	D6	O	O6
37	I/O	PF7	I/O	D7	I/O	D7	O	O7
38	–	GND	–	GND	–	GND	–	GND
39	I	PG0/AN0	I	PG0/AN0	I	PG0/AN0	–	NC
40	I	PG1/AN1	I	PG1/AN1	I	PG1/AN1	–	NC

INPUT

AN0 – AN5	; ANALOG INPUT
BUSREQ	; BUS REQUEST
CTS0, 1	; CLEAR TO SEND FOR ASYNCHRONOUS SCI CHANNEL n (n = 0 OR 1)
DCD0, 1	; DATA CARRIER DETECT FOR ASYNCHRONOUS SCI CHANNEL n (n = 0 OR 1)
DREQ0, 1	; DMA REQUEST FOR CHANNEL n (n = 0 OR 1)
EXTAL	; EXTERNAL CLOCK
IC	; INPUT CAPTURE
INT0 – 2	; INTERRUPT
MP0, 1	; MOD PROGRAM
NMI	; NON-MASKABLE INTERRUPT
PG0 – PG5	; 6-BIT INPUT OF PORT G
RXA0, 1	; RECEIVE DATA FOR ASYNCHRONOUS SCI CHANNEL n (n = 0 OR 1)
RXS	; RECEIVE DATA FOR SERIAL I/O PORT
XTAL	; CLOCK

OUTPUT

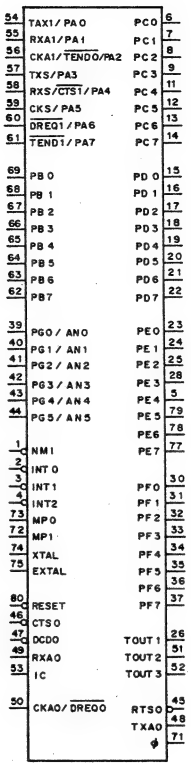
A0 – A19	; ADDRESS BUS
BUSACK	; BUS ACKNOWLEDGE
E	; EANBLE
IOE	; I/O ENABLE
LIR	; LOAD INSTRUCTION REGISTER
ME	; MEMORY ENABLE
RD	; READ
REF	; REFRESH
RTS0, 1	; REQUEST TO SEND FOR ASYNCHRONOUS SCI CHANNEL n (n = 0 OR 1)
ST	; STATUS
TEND0, 1	; TRANSFER END FOR CHANNEL n (n = 0 OR 1)
TOUT1 – 3	; TIMER OUT
TXA0, 1	; TRANSFER DATA FOR ASYNCHRONOUS SCI CHANNEL n (n = 0 OR 1)
TXS	; TRANSFER DATA FOR SERIAL I/O PORT
WR	; WRITE
φ	; SYSTEM CLOCK

INPUT/OUTPUT

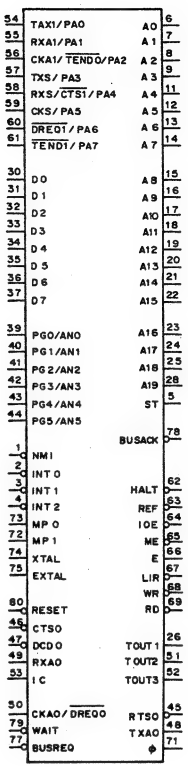
CKA0, 1	; CLOCK FOR ASYNCHRONOUS SCI CHANNEL n (n = 0 OR 1)
CKS	; CLOCK FOR SERIAL I/O PORT
D0 – D7	; DATA BUS
PA0 – PA7	; 8-BIT INPUT/OUTPUT OF PORT A
PB0 – PB7	; 8-BIT INPUT/OUTPUT OF PORT B
PC0 – PC7	; 8-BIT INPUT/OUTPUT OF PORT C
PD0 – PD7	; 8-BIT INPUT/OUTPUT OF PORT D
PE0 – PE7	; 8-BIT INPUT/OUTPUT OF PORT E
PF0 – PF7	; 8-BIT INPUT/OUTPUT OF PORT F

PIN No.	MODE 0 I/O	MODE 0 SIGNAL	MODE 1 I/O	MODE 1 SIGNAL	MODE 2 I/O	MODE 2 SIGNAL	PROM MODE I/O	PROM MODE SIGNAL
41	I	PG2/AN2	I	PG2/AN2	I	PG2/AN2	–	NC
42	I	PG3/AN3	I	PG3/AN3	I	PG3/AN3	–	NC
43	I	PG4/AN4	I	PG4/AN4	I	PG4/AN4	–	NC
44	I	PG5/AN5	I	PG5/AN5	I	PG5/AN5	–	NC
45	O	RTS0	O	RTS0	O	RTS0	–	NC
46	I	CTS0	I	CTS0	I	CTS0	–	NC
47	I	DCD0	I	DCD0	I	DCD0	–	NC
48	O	TXA0	O	TXA0	O	TXA0	–	NC
49	I	RXA0	I	RXA0	I	RXA0	–	NC
50	I/O	CKA0/$\overline{DREQ0}$	I/O	CKA0/$\overline{DREQ0}$	I/O	CKA0/$\overline{DREQ0}$	–	NC
51	O	TOUT2	O	TOUT2	O	TOUT2	–	NC
52	O	TOUT3	O	TOUT3	O	TOUT3	–	NC
53	I	IC	I	IC	I	IC	–	NC
54	I/O	TXA1/PA0	I/O	TXA1/PA0	I/O	TXA1/PA0	–	NC
55	I/O	RXA1/PA1	I/O	RXA1/PA1	I/O	RXA1/PA1	–	NC
56	I/O	CKA1/$\overline{TEND0}$/PA2	I/O	CKA1/$\overline{TEND0}$/PA2	I/O	CKA1/$\overline{TEND0}$/PA2	–	NC
57	I/O	TXS/PA3	I/O	TXS/PA3	I/O	TXS/PA3	–	NC
58	I/O	RXS/$\overline{CTS1}$/PA4	I/O	RXS/$\overline{CTS1}$/PA4	I/O	RXS/$\overline{CTS1}$/PA4	–	NC
59	I/O	CKS/PA5	I/O	CKS/PA5	I/O	CKS/PA5	–	NC
60	I/O	$\overline{DREQ1}$/PA6	I/O	$\overline{DREQ1}$/PA6	I/O	$\overline{DREQ1}$/PA6	–	NC
61	I/O	$\overline{TEND1}$/PA7	I/O	$\overline{TEND1}$/PA7	I/O	$\overline{TEND1}$/PA7	–	NC
62	I/O	PB7	O	HALT	O	HALT	–	NC
63	I/O	PB6	O	REF	O	REF	–	NC
64	I/O	PB5	O	IOE	O	IOE	–	NC
65	I/O	PB4	O	ME	O	ME	–	NC
66	I/O	PB3	O	E	O	E	–	NC
67	I/O	PB2	O	LIR	O	LIR	–	NC
68	I/O	PB1	O	WR	O	WR	–	NC
69	I/O	PB0	O	RD	O	RD	–	NC
70	–	GND	–	GND	–	GND	–	GND
71	O	ϕ	O	ϕ	O	ϕ	–	NC
72	I	MP1	I	MP1	I	MP1	I	MP1
73	I	MP0	I	MP0	I	MP0	I	MP0
74	I	XTAL	I	XTAL	I	XTAL	I	XTAL
75	I	EXTAL	I	EXTAL	I	EXTAL	I	EXTAL
76	–	VDD	–	VDD	–	VDD	–	VDD
77	I/O	PE7	I	WAIT	I	WAIT	–	NC
78	I/O	PE6	O	BUSACK	O	BUSACK	–	NC
79	I/O	PE5	I	BUSREQ	I	BUSREQ	–	NC
80	I	RESET	I	RESET	I	RESET	–	VPP

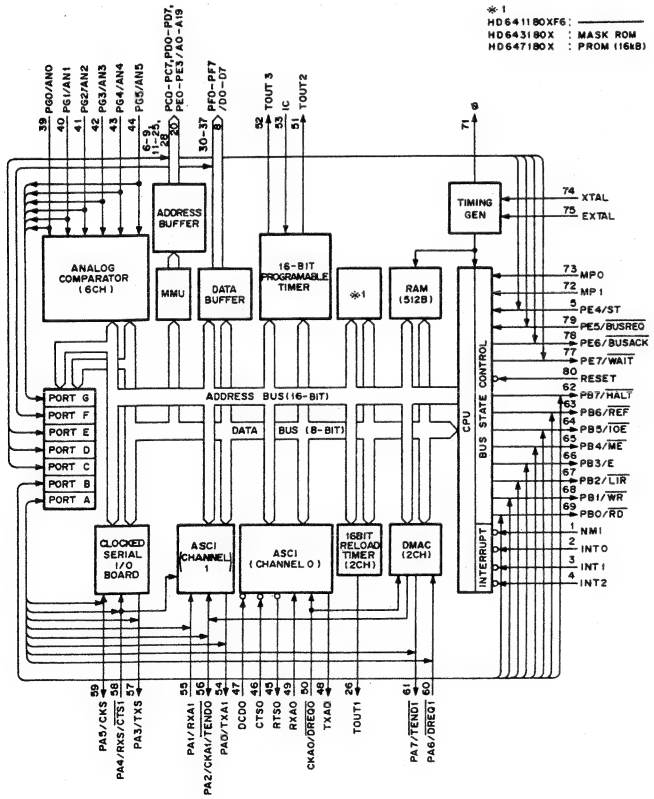
MODE 0



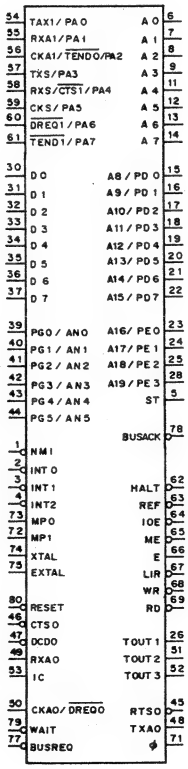
MODE 1



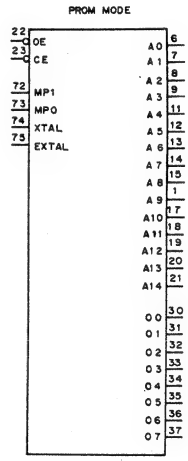
※1
HD6411 80XF6 : ——
HD6431 80X : MASK ROM
HD6471 80X : PROM (16kB)



MODE 2

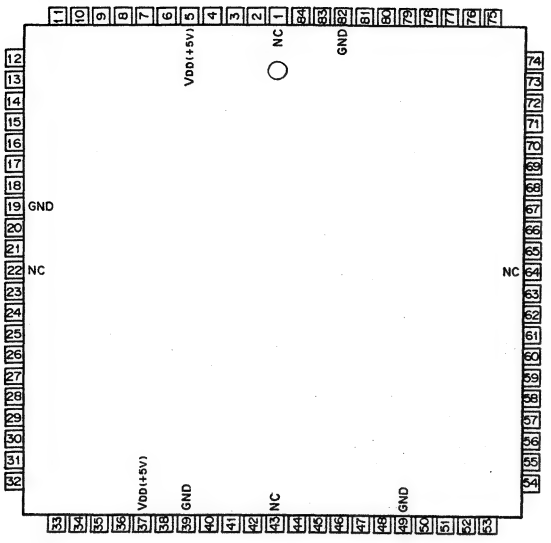


PROM MODE



HD647180X0CP6 (HITACHI)

C-MOS 8-BIT MICRO PROCESSING UNIT
– TOP VIEW –



PIN No.	MODE 0 I/O	MODE 0 SIGNAL	MODE 1 I/O	MODE 1 SIGNAL	MODE 2 I/O	MODE 2 SIGNAL	PROM MODE I/O	PROM MODE SIGNAL
1	–	NC	–	NC	–	NC	–	NC
2	I	MP0	I	MP0	I	MP0	I	MP0
3	I	XTAL	I	XTAL	I	XTAL	I	XTAL
4	I	EXTAL	I	EXTAL	I	EXTAL	I	EXTAL
5	–	VDD	–	VDD	–	VDD	–	VDD
6	I/O	PE7	I	WAIT	I	WAIT	–	NC
7	I/O	PE6	O	BUSACK	O	BUSACK	–	NC
8	I/O	PE5	I	BUSREQ	I	BUSREQ	–	NC
9	I	RESET	I	RESET	I	RESET	–	VPP
10	I	NMI	I	NMI	I	NMI	O	A9
11	I	INT0	I	INT0	I	INT0	–	NC
12	I	INT1	I	INT1	I	INT1	–	NC
13	I	INT2	I	INT2	I	INT2	–	NC
14	I/O	PE4	O	ST	O	ST	–	NC
15	I/O	PC0	O	A0	O	A0	O	A0
16	I/O	PC1	O	A1	O	A1	O	A1
17	I/O	PC2	O	A2	O	A2	O	A2
18	I/O	PC3	O	A3	O	A3	O	A3
19	–	GND	–	GND	–	GND	–	GND
20	I/O	PC4	O	A4	O	A4	O	A4
21	I/O	PC5	O	A5	O	A5	O	A5
22	–	NC	–	NC	–	NC	–	NC
23	I/O	PC6	O	A6	O	A6	O	A6
24	I/O	PC7	O	A7	O	A7	O	A7
25	I/O	PD0	O	A8	I/O	A8/PD0	O	A8
26	I/O	PD1	O	A9	I/O	A9/PD1	–	NC
27	I/O	PD2	O	A10	I/O	A10/PD2	O	A10
28	I/O	PD3	O	A11	I/O	A11/PD3	O	A11
29	I/O	PD4	O	A12	I/O	A12/PD4	O	A12
30	I/O	PD5	O	A13	I/O	A13/PD5	O	A13
31	I/O	PD6	O	A14	I/O	A14/PD6	O	A14
32	I/O	PD7	O	A15	I/O	A15/PD7	I	OE
33	I/O	PE0	O	A16	I/O	A16/PE0	I	CE
34	I/O	PE1	O	A17	I/O	A17/PE1	–	NC
35	I/O	PE2	O	A18	I/O	A18/PE2	–	NC
36	O	TOUT1	O	TOUT1	O	TOUT1	–	NC
37	–	VDD	–	VDD	–	VDD	–	VDD
38	I/O	PE3	O	A19	I/O	A19/PE3	–	NC
39	–	GND	–	GND	–	GND	–	GND
40	I/O	PF0	I/O	D0	I/O	D0	O	O0
41	I/O	PF1	I/O	D1	I/O	D1	O	O1
42	I/O	PF2	I/O	D2	I/O	D2	O	O2
43	–	NC	–	NC	–	NC	–	NC
44	I/O	PF3	I/O	D3	I/O	D3	O	O3
45	I/O	PF4	I/O	D4	I/O	D4	O	O4
46	I/O	PF5	I/O	D5	I/O	D5	O	O5
47	I/O	PF6	I/O	D6	I/O	D6	O	O6
48	I/O	PF7	I/O	D7	I/O	D7	O	O7
49	–	GND	–	GND	–	GND	–	GND
50	I	PG0/AN0	I	PG0/AN0	I	PG0/AN0	–	NC
51	I	PG1/AN1	I	PG1/AN1	I	PG1/AN1	–	NC
52	I	PG2/AN2	I	PG2/AN2	I	PG2/AN2	–	NC
53	I	PG3/AN3	I	PG3/AN3	I	PG3/AN3	–	NC
54	I	PG4/AN4	I	PG4/AN4	I	PG4/AN4	–	NC
55	I	PG5/AN5	I	PG5/AN5	I	PG5/AN5	–	NC
56	O	RTS0	O	RTS0	O	RTS0	–	NC
57	I	CTS0	I	CTS0	I	CTS0	–	NC
58	I	DCD0	I	DCD0	I	DCD0	–	NC
59	O	TXA0	O	TXA0	O	TXA0	–	NC
60	I	RXA0	I	RXA0	I	RXA0	–	NC
61	I/O	CKA0/DREQ0	I/O	CKA0/DREQ0	I/O	CKA0/DREQ0	–	NC
62	O	TOUT2	O	TOUT2	O	TOUT2	–	NC
63	O	TOUT3	O	TOUT3	O	TOUT3	–	NC
64	–	NC	–	NC	–	NC	–	NC
65	I	IC	I	IC	I	IC	–	NC
66	I/O	TXA1/PA0	I/O	TXA1/PA0	I/O	TXA1/PA0	–	NC
67	I/O	RXA1/PA1	I/O	RXA1/PA1	I/O	RXA1/PA1	–	NC
68	I/O	CKA1/TEND0/PA2	I/O	CKA1/TEND0/PA2	I/O	CKA1/TEND0/PA2	–	NC
69	I/O	TXS/PA3	I/O	TXS/PA3	I/O	TXS/PA3	–	NC
70	I/O	RXS/CTS1/PA4	I/O	RXS/CTS1/PA4	I/O	RXS/CTS1/PA4	–	NC
71	I/O	CKS/PA5	I/O	CKS/PA5	I/O	CKS/PA5	–	NC
72	I/O	DREQ1/PA6	I/O	DREQ1/PA6	I/O	DREQ1/PA6	–	NC
73	I/O	TEND1/PA7	I/O	TEND1/PA7	I/O	TEND1/PA7	–	NC
74	I/O	PB7	O	HALT	O	HALT	–	NC
75	I/O	PB6	O	REF	O	REF	–	NC
76	I/O	PB5	O	IOE	O	IOE	–	NC
77	I/O	PB4	O	ME	O	ME	–	NC
78	I/O	PB3	O	E	O	E	–	NC
79	I/O	PB2	O	LIR	O	LIR	–	NC
80	I/O	PB1	O	WR	O	WR	–	NC
81	I/O	PB0	O	RD	O	RD	–	NC
82	–	GND	–	GND	–	GND	–	GND
83	O	φ	O	φ	O	φ	–	NC
84	I	MP1	I	MP1	I	MP1	I	MP1

INPUT

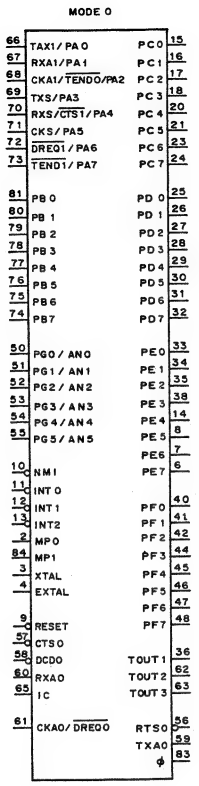
AN0 – AN5 ; ANALOG INPUT
BUSREQ ; BUS REQUEST
CTS0, 1 ; CLEAR TO SEND FOR ASYNCHRONOUS SCI CHANNEL n (n = 0 OR 1)
DCD0, 1 ; DATA CARRIER DETECT FOR ASYNCHRONOUS SCI CHANNEL n (n = 0 OR 1)
DREQ0, 1 ; DMA REQUEST FOR CHANNEL n (n = 0 OR 1)
EXTAL ; EXTERNAL CLOCK
IC ; INPUT CAPTURE
INT0 – 2 ; INTERRUPT
MP0, 1 ; MOD PROGRAM
NMI ; NON-MASKABLE INTERRUPT
PG0 – PG5 ; 6-BIT INPUT OF PORT G
RXA0, 1 ; RECEIVE DATA FOR ASYNCHRONOUS SCI CHANNEL n (n = 0 OR 1)
RXS ; RECEIVE DATA FOR SERIAL I/O PORT
XTAL ; CLOCK

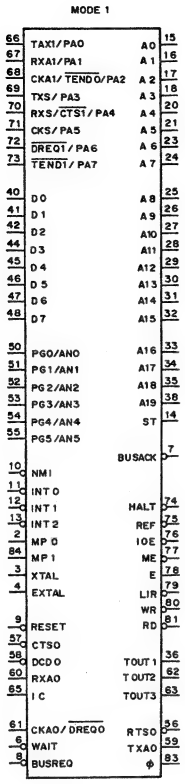
OUTPUT

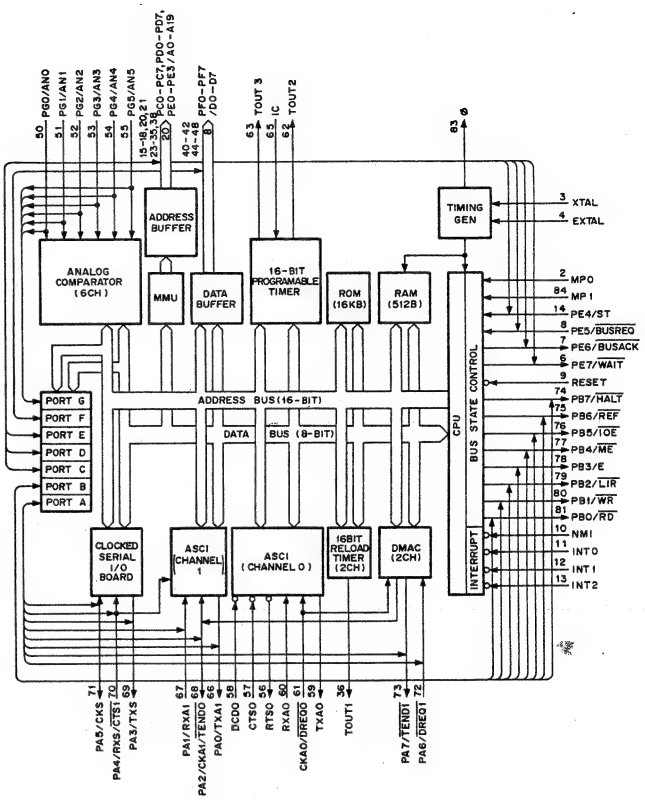
A0 – A19 ; ADDRESS BUS
BUSACK ; BUS ACKNOWLEDGE
E ; EANBLE
IOE ; I/O ENABLE
LIR ; LOAD INSTRUCTION REGISTER
ME ; MEMORY ENABLE
RD ; READ
REF ; REFRESH
RTS0, 1 ; REQUEST TO SEND FOR ASYNCHRONOUS SCI CHANNEL n (n = 0 OR 1)
ST ; STATUS
TEND0, 1 ; TRANSFER END FOR CHANNEL n (n = 0 OR 1)
TOUT1 – 3 ; TIMER OUT
TXA0, 1 ; TRANSFER DATA FOR ASYNCHRONOUS SCI CHANNEL n (n = 0 OR 1)
TXS ; TRANSFER DATA FOR SERIAL I/O PORT
WR ; WRITE
φ ; SYSTEM CLOCK

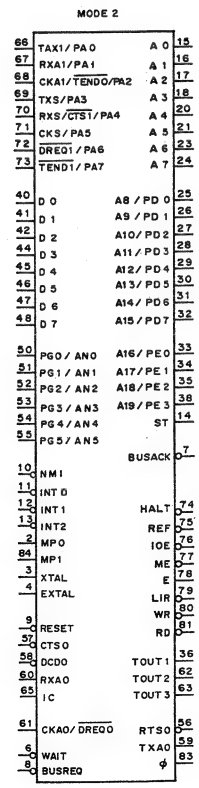
INPUT/OUTPUT

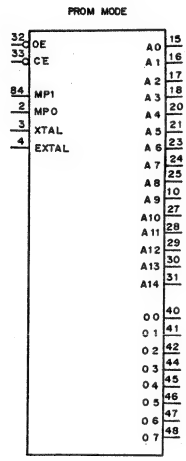
CKA0, 1 ; CLOCK FOR ASYNCHRONOUS SCI CHANNEL n (n = 0 OR 1)
CKS ; CLOCK FOR SERIAL I/O PORT
D0 – D7 ; DATA BUS
PA0 – PA7 ; 8-BIT INPUT/OUTPUT OF PORT A
PB0 – PB7 ; 8-BIT INPUT/OUTPUT OF PORT B
PC0 – PC7 ; 8-BIT INPUT/OUTPUT OF PORT C
PD0 – PD7 ; 8-BIT INPUT/OUTPUT OF PORT D
PE0 – PE7 ; 8-BIT INPUT/OUTPUT OF PORT E
PF0 – PF7 ; 8-BIT INPUT/OUTPUT OF PORT F







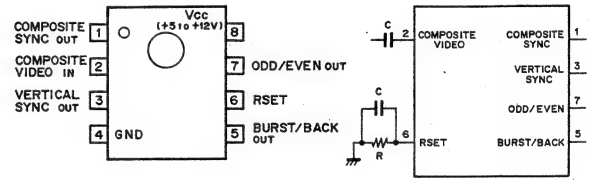


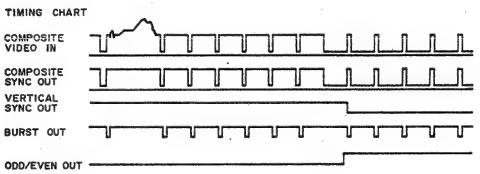


LM1881N (NS)

VIDEO SYNC SEPARATOR

– TOP VIEW –

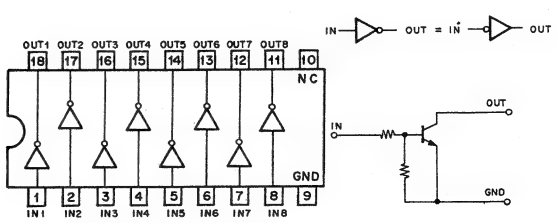




M54513P (MITSUBISHI)

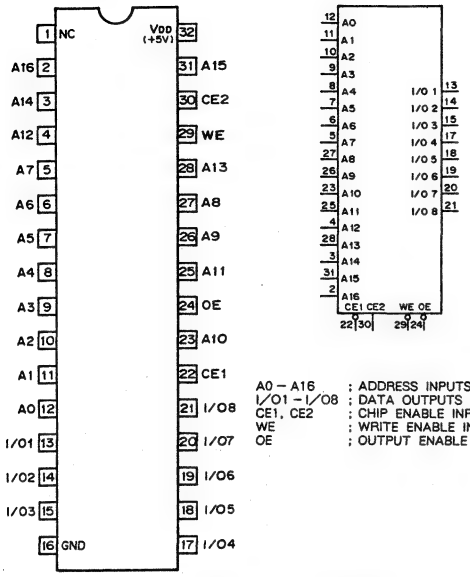
BIPOLAR TRANSISTOR ARRAY

– TOP VIEW –



HM628128LFP-10 (HITACHI) FLAT PACKAGE

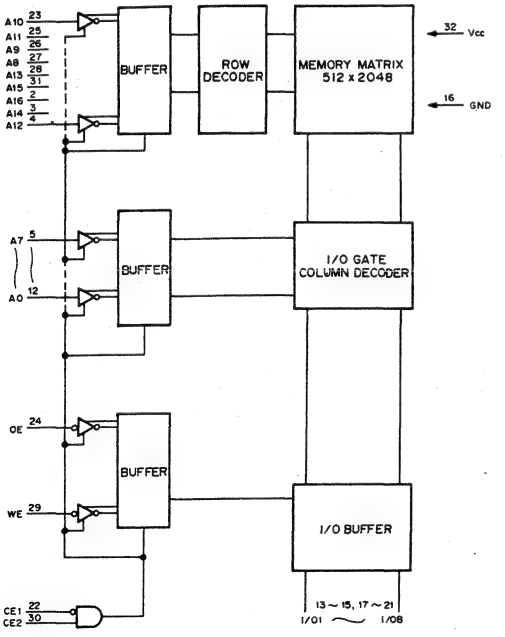
C-MOS 131072-WORDx8-BIT HIGH SPEED STATIC RAM
– TOP VIEW –



A0 – A16 ; ADDRESS INPUTS
I/O1 – I/O8 ; DATA OUTPUTS
CE1, CE2 ; CHIP ENABLE INPUTS
WE ; WRITE ENABLE INPUT
OE ; OUTPUT ENABLE INPUT

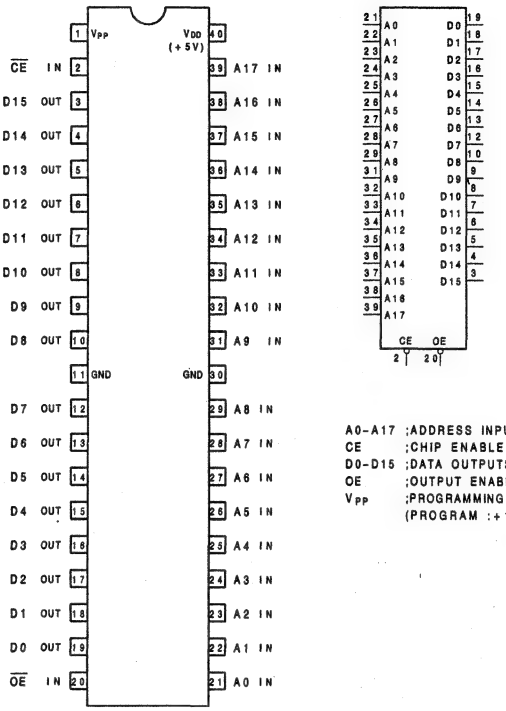
CE1	CE2	OE	WE	MODE	I/O TERMINAL
1	X	X	X	NOT SELECT	HI-Z
X	0	X	X	NOT SELECT	HI-Z
0	1	1	1	OUTPUT DISABLE	HI-Z
0	1	0	1	READ	DATA OUTPUT
0	1	X	0	WRITE	DATA INPUT

0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE
HI-Z ; HIGH IMPEDANCE

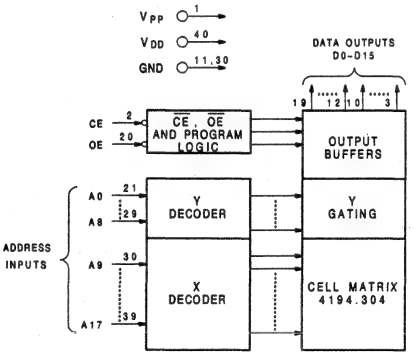


M27C4002-12F1 (SGS)

C-MOS 4M(256k × 16)-BIT UV EPROM
– TOP VIEW –



A0-A17 ;ADDRESS INPUTS
CE ;CHIP ENABLE
D0-D15 ;DATA OUTPUTS
OE ;OUTPUT ENABLE
VPP ;PROGRAMMING VOLTAGE
(PROGRAM :+12.75V)



ABOVE DIAGRAM SHOWS CONDITIONS BEFORE PROGRAMMING.

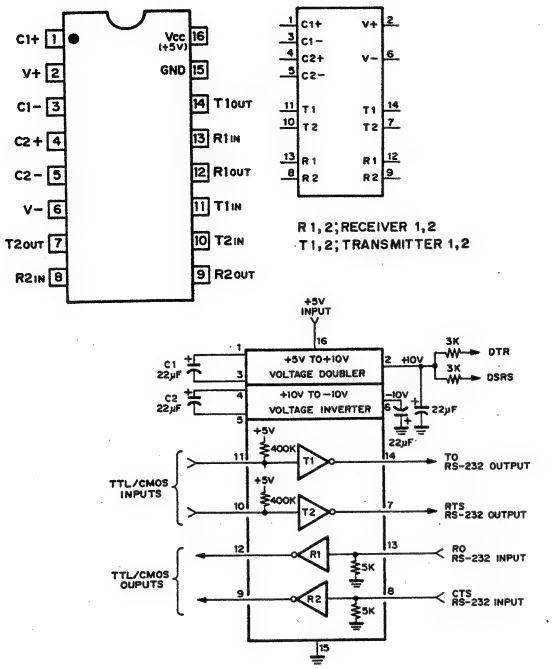
CE	OE	A9	VPP	OUTPUT	FUNCTION
0	0	x	x	DOUT	READ
0	1	x	x	HI-Z	OUTPUT DISABLE
0	1	x	VPP	DIN	PROGRAM
1	0	x	VPP	DOUT	VERIFY
1	1	x	VPP	HI-Z	PROGRAM INHIBIT
1	x	x	x	HI-Z	STANDBY
0	0	VH	VDD	CODE	EIECTRONIC SIGNATURE

1 ;HIGH LEVEL
0 ;LOW LEVEL
x ;DON'T CARE
VH ;12.0 ± 0.5V
HI-Z :HIGH IMPEDANCE

MAX232N (TI)

RS-232 TRANSMITTER/RECEIVER

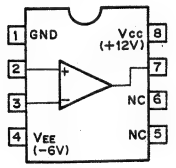
– TOP VIEW –



MB4002PF (FUJITSU) FLAT PACKAGE

HIGH SPEED VOLTAGE COMPARATOR

– TOP VIEW –

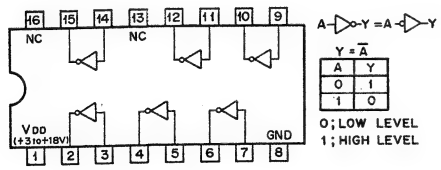


MC14049UBF (MOTOROLA) FLAT PACKAGE

TC4049BP (TOSHIBA)

C-MOS INVERTING TYPE BUFFER/CONVERTER

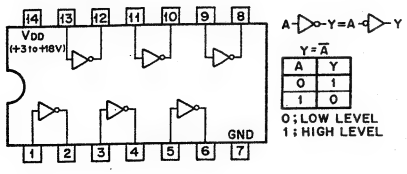
– TOP VIEW –



MC14069UBF (MOTOROLA)

C-MOS INVERTER

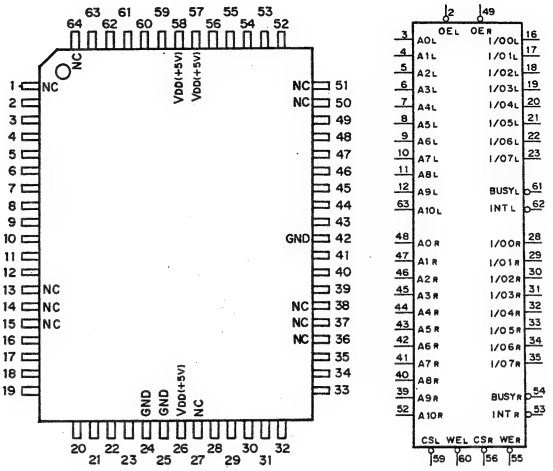
– TOP VIEW –



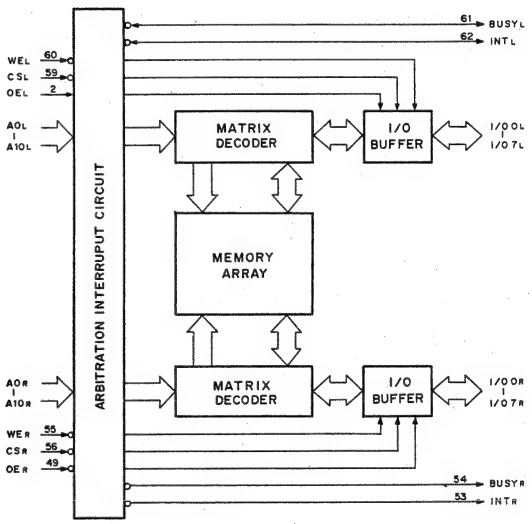
MB8421-90LPFQ (FUJITSU) (ACCESS TIME = 90nS) FLAT PACKAGE

C-MOS 16384 (2Kx8) BIT DUAL PORT STATIC RAM

– TOP VIEW –



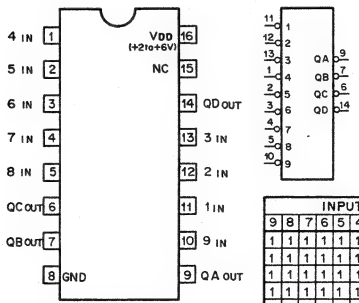
A0L – A10L, A0R – A10R : ADDRESS INPUTS
I/O0L – I/O7L, I/O0R – I/O7R : DATA INPUTS/OUTPUTS
CSL, CSR : CHIP SELECT INPUT
WEL, WER : WRITE ENABLE INPUT
OEL, OER : OUTPUT ENABLE INPUT
BUSYL, BUSYR : BUSY OUTPUT
INTL, INTR : INTERRUPT OUTPUT



MC74HC147F (MOTOROLA) FLAT PACKAGE

C-MOS 10-TO-4-LINE PRIORITY ENCODER

– TOP VIEW –



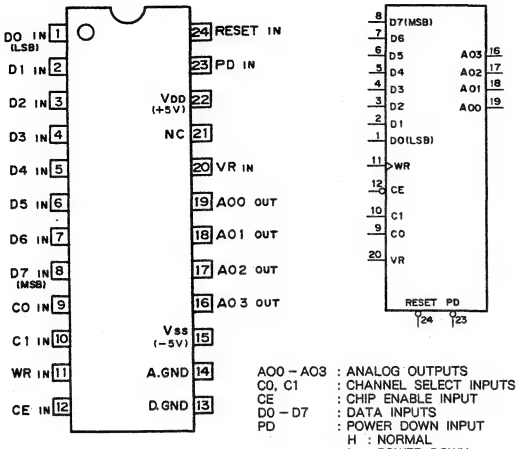
INPUT									OUTPUT			
9	8	7	6	5	4	3	2	1	QD	QC	QB	QA
1	1	1	1	1	1	1	1	↑	1	1	1	1
1	1	1	1	1	1	1	1	0	1	1	1	0
1	1	1	1	1	1	1	0	X	1	1	0	1
1	1	1	1	1	1	0	X	X	1	1	0	0
1	1	1	1	1	0	X	X	X	1	0	1	1
1	1	1	1	0	X	X	X	X	1	0	1	0
1	1	1	0	X	X	X	X	X	1	0	0	1
1	1	0	X	X	X	X	X	X	1	0	0	0
1	0	X	X	X	X	X	X	X	0	1	1	1
0	X	X	X	X	X	X	X	X	0	1	1	0

0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE

MB86023 (FUJITSU) FLAT PACKAGE

C-MOS 4-CHANNEL 8-BIT D/A CONVERTER

– TOP VIEW –



A00 – A03 : ANALOG OUTPUTS
C0, C1 : CHANNEL SELECT INPUTS
CE : CHIP ENABLE INPUT
D0 – D7 : DATA INPUTS
PD : POWER DOWN INPUT
H : NORMAL
L : POWER DOWN
(ANALOG OUT = HI-IMPEDANCE)
RESET : RESET INPUT
VR : REFERENCE VOLTAGE INPUT
WR : WRITE CLOCK INPUT

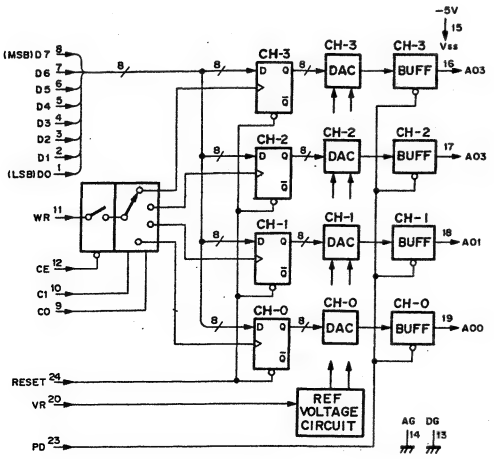
FUNCTION SELECT

CONTROL INPUTS					LATCH			
RESET	CE	WR	C1	C0	CH-3	CH-2	CH-1	CH-0
1	0	⌐⌐	0	0	HOLD	HOLD	HOLD	WRITE
1	0	⌐⌐	0	1	HOLD	HOLD	WRITE	HOLD
1	0	⌐⌐	1	0	HOLD	WRITE	HOLD	HOLD
1	0	⌐⌐	1	1	WRITE	HOLD	HOLD	HOLD
1	1	X	X	X	HOLD	HOLD	HOLD	HOLD
0	X	X	X	X	RESET TO 10000000			

D/A CONVERSION

DATA INPUTS								OUTPUT VOLTAGE	
D7	D6	D5	D4	D3	D2	D1	D0	VR = OPEN	VR = V1
1	1	1	1	1	1	1	1	255/512VDD	255/256V1
1	1	1	1	1	1	1	0	253/512VDD	253/256V1
1	1	1	1	1	1	0	1	251/512VDD	251/256V1
1	0	0	0	0	0	0	1	3/512VDD	3/256V1
1	0	0	0	0	0	0	0	1/512VDD	1/256V1
0	1	1	1	1	1	1	1	−1/512VDD	−1/256V1
0	1	1	1	1	1	1	0	−3/512VDD	−3/256V1
0	0	0	0	0	0	0	1	−251/512VDD	−251/256V1
0	0	0	0	0	0	0	0	−253/512VDD	−253/256V1
0	0	0	0	0	0	0	0	−255/512VDD	−255/256V1

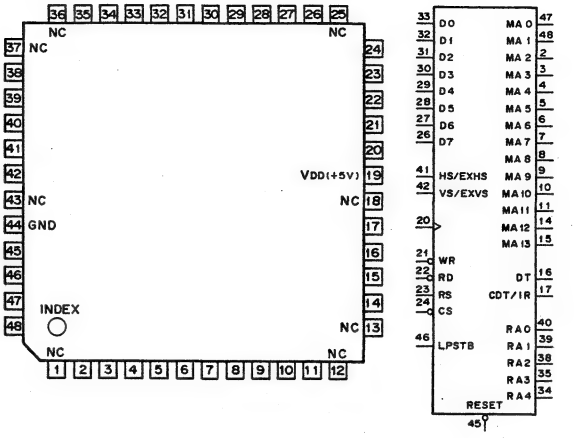
0 : LOW LEVEL
1 : HIGH LEVEL
X : DON'T CARE



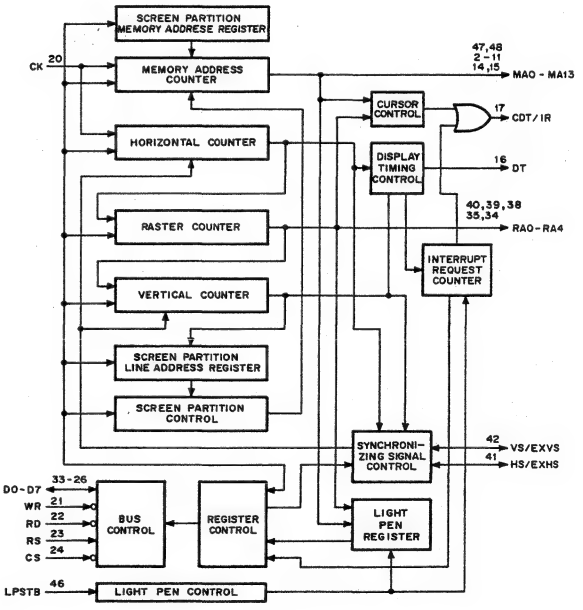
MB89322APFQ (FUJITSU) FLAT PACKAGE

C-MOS PROGRAMMABLE CRT (CATHODE-RAY TUBE) CONTROLLER

– TOP VIEW –



PIN No.	I/O	SIGNAL	PIN No.	I/O	SIGANL	PIN No.	I/O	SIGNAL	PIN No.	I/O	SIGNAL
1	–	NC	13	–	NC	25	–	NC	37	–	NC
2	O	MA2	14	O	MA12	26	I/O	D7	38	O	RA2
3	O	MA3	15	O	MA13	27	I/O	D6	39	O	RA1
4	O	MA4	16	O	DT	28	I/O	D5	40	O	RA0
5	O	MA5	17	O	CDT/IR	29	I/O	D4	41	I/O	HS/EXHS
6	O.	MA6	18	–	NC	30	I/O	D3	42	I/O	VS/EXVS
7	O	MA7	19	–	VDD (+5V)	31	I/O	D2	43	–	NC
8	O	MA8	20	I	CK	32	I/O	D1	44	–	GND
9	O	MA9	21	I	WR	33	I/O	D0	45	I	RESET
10	O	MA10	22	I	RD	34	O	RA4	46	I	LPSTB
11	O	MA11	23	I	RS	35	O	RA3	47	O	MA0
12	–	NC	24	I	CS	36	–	NC	48	O	MA1



INPUT

CK ; CLOCK
CS ; CHIP SELECT
LPSTB ; LIGHT PEN STROBE
RD ; READ
RESET ; RESET INPUT
RS ; REGISTER SELECT
WR ; WRITE

OUTPUT

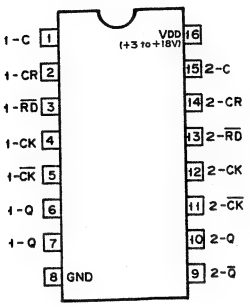
CDT/IR ; CURSOR DISPLAY TIMING/ INTERRUPT REQUEST
DT ; DISPLAY TIMING
MA0 – MA13 ; MEMORY ADDRESS
RA0 – RA4 ; RASTER ADDRESS

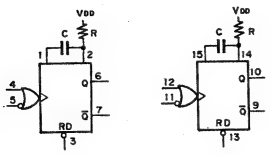
INPUT/OUTPUT

D0 – D7 ; DATA BUS
HS/EXHS ; H SYNC OUT/EXTERNAL H SYNC IN
VS/EXVS ; V SYNC OUT/EXTERNAL V SYNC IN

MC14538BCP (MOTOROLA)

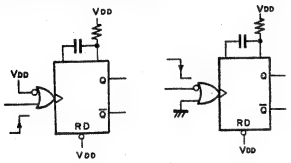
C-MOS DUAL RETRIGGERABLE MONOSTABLE MULTIVIBRATORS
– TOP VIEW –



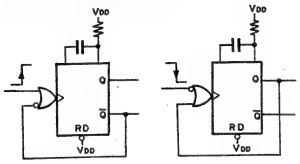


OUTPUT PULSE WIDTH = C·R

RETRIGGERABLE M.M.V

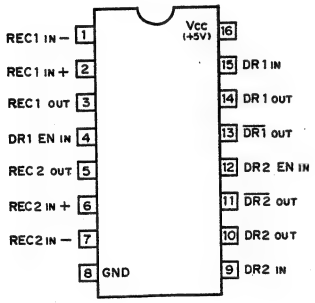


NON-RETRIGGERABLE M.M.V



MC34051P (MOTOROLA)

RS-422 DRIVER/RECEIVER
– TOP VIEW –

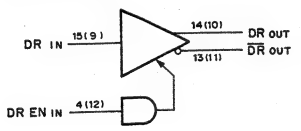


DR EN	MODE
0	DISABLE
1	ENABLE

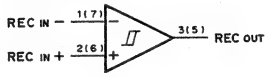
0 ; LOW LEVEL
1 ; HIGH LEVEL

DR ; DRIVER
DR EN ; DRIVER ENABLE
REC ; RECEIVER

DRIVER CIRCUIT

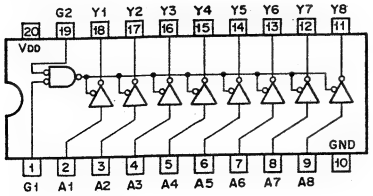


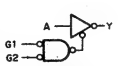
RECEIVER CIRCUIT



MC74HC540N (MOTOROLA)
SN74HC540ANS (TI) FLAT PACKAGE
SN74HCT540ANS (TI) FLAT PACKAGE

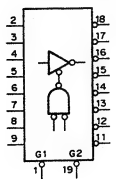
C-MOS 3-STATE INVERTING BUFFER/LINE DRIVER/LINE RECEIVER
– TOP VIEW –





G1	G2	A	Y
0	0	0	1
0	0	1	0
1	X	X	HI-Z
X	1	X	HI-Z

0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE
HI-Z ; HIGH IMPEDANCE

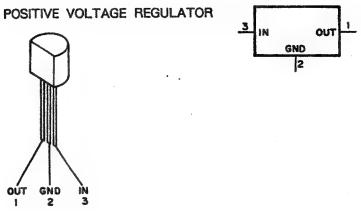


NOTE :

TYPE	VDD
ACT/HCT	+5V
TC74AC540 TYPE	+2 to +5.5V
OTHER TYPES	+2 to +6V

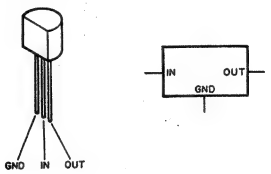
NJM78L09A (JRC) + 9V (100mA)

POSITIVE VOLTAGE REGULATOR



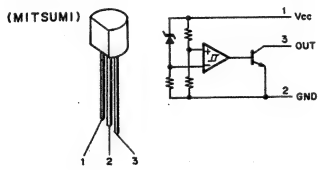
NJM79L05A (JRC) – 5V
NJM79L09A (JRC) – 9V

NEGATIVE VOLTAGE REGULATOR (100mA)



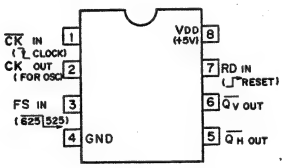
PST529C (MITSUMI) Vs = 4.5V
PST529H (MITSUMI) Vs = 3.1V

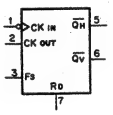
VOLTAGE DETECTOR,SYSTEM RESET

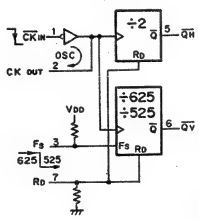


SM6430C (NPC)

C-MOS OSC, 1/2 AND 1/525 OR 1/625 DIVIDER
– TOP VIEW –







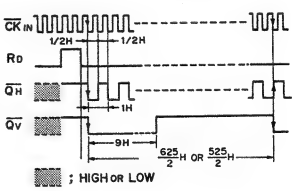
RESET FUNCTION

RD	QV / QH
0 OR OPEN	COUNT
1	1

DIVISION RATIO

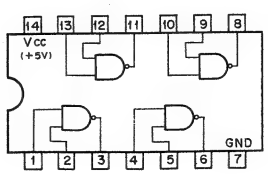
FS	QV	QH
0	1/525	1/2
1 OR OPEN	1/625	1/2

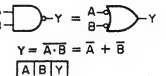
0; LOW LEVEL
1; HIGH LEVEL



SN74ALS00ANS (TI) FLAT PACKAGE

TTL 2-INPUT POSITIVE-NAND GATE
– TOP VIEW –





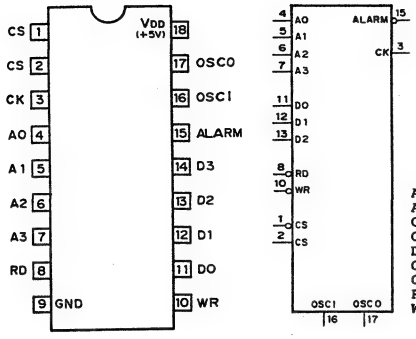
A	B	Y
0	0	1
0	1	1
1	0	1
1	1	0

0; LOW LEVEL
1; HIGH LEVEL

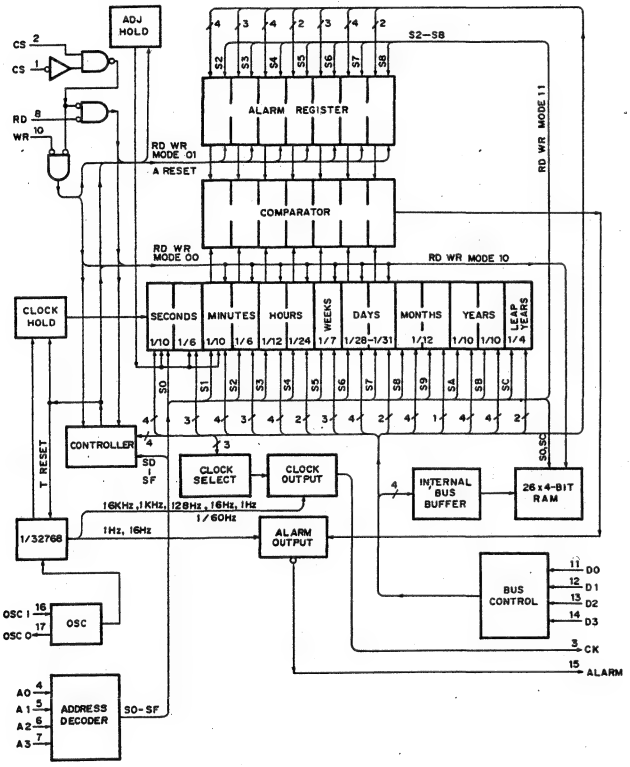
RF5C15 (RICOH) FLAT PACKAGE

C-MOS REAL TIME CLOCK

– TOP VIEW –



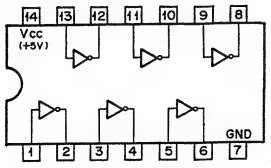
A0-A3 ; ADDRESS BUS IN
ALARM ; ALARM OUT
CK ; CLOCK OUT
CS ; CHIP SELECT IN
D0-D3 ; DATA BUS IN/OUT
OSCI ; CRYSTAL/CLOCK IN
OSCO ; CRYSTAL/CLOCK OUT
RD ; READ STROBE IN
WR ; WRITE STROBE IN

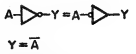


SN74ALS04BNS (TI) FLAT PACKAGE

TTL INVERTER

– TOP VIEW –





$Y = \overline{A}$

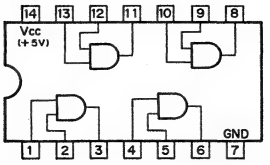
A	Y
0	1
1	0

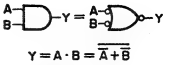
0;LOW LEVEL
1;HIGH LEVEL

SN74ALS08NS (TI) FLAT PACKAGE

TTL 2-INPUT POSITIVE-AND GATE

– TOP VIEW –





$Y = A \cdot B = \overline{\overline{A} + \overline{B}}$

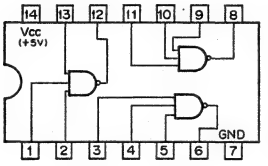
A	B	Y
0	0	0
0	1	0
1	0	0
1	1	1

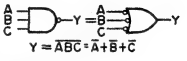
0;LOW LEVEL
1;HIGH LEVEL

SN74ALS10ANS (TI) FLAT PACKAGE

TTL 3-INPUT POSITIVE NAND GATE

– TOP VIEW –





$Y = \overline{ABC} = \overline{A} + \overline{B} + \overline{C}$

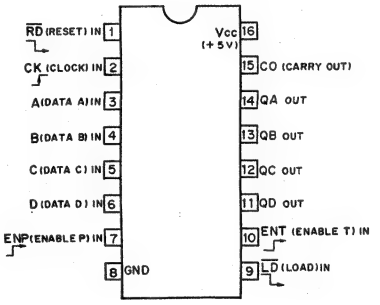
A	B	C	Y
0	0	0	1
0	0	1	1
0	1	0	1
0	1	1	1
1	0	0	1
1	0	1	1
1	1	0	1
1	1	1	0

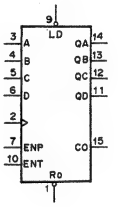
0 : LOW LEVEL
1 : HIGH LEVEL

SN74ALS163BNS (TI) FLAT PACKAGE

TTL PRESETTABLE SYNCHRONOUS 4-BIT BINARY COUNTER

– TOP VIEW –





MODE SELECTION

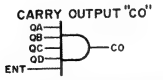
CONTROL INPUTS				MODE
RD	LD	ENP	ENT	
0	X	X	X	RESET (SYNCHRONOUS)
1	0	X	X	PRESET (SYNCHRONOUS)
1	1	0	X	NO COUNT
1	1	X	0	NO COUNT
1	1	1	1	COUNT

0;LOW LEVEL
1;HIGH LEVEL
X;DON'T CARE

COUNT SEQUENCE

COUNT	OUTPUTS			
	QD	QC	QB	QA
0	0	0	0	0
1	0	0	0	1
2	0	0	1	0
3	0	0	1	1
4	0	1	0	0
5	0	1	0	1
6	0	1	1	0
7	0	1	1	1
8	1	0	0	0
9	1	0	0	1
10	1	0	1	0
11	1	0	1	1
12	1	1	0	0
13	1	1	0	1
14	1	1	1	0
15	1	1	1	1

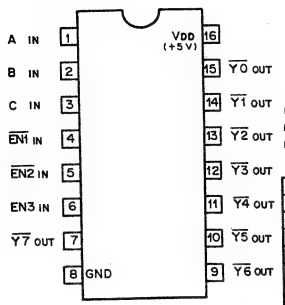
CARRY OUTPUT "CO"

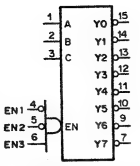


CO IS HIGH WHEN ENT INPUT IS HIGH AND COUNT IS "15".

SN74ALS138NS (TI) FLAT PACKAGE

TTL 3-TO-8-LINE DECODER/DEMULTIPLEXER
– TOP VIEW –





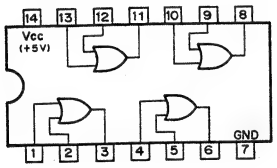
INPUTS				OUTPUTS							
EN	C	B	A	Y7	Y6	Y5	Y4	Y3	Y2	Y1	Y0
0	X	X	X	1	1	1	1	1	1	1	1
1	0	0	0	1	1	1	1	1	1	1	0
1	0	0	1	1	1	1	1	1	1	0	1
1	0	1	0	1	1	1	1	1	0	1	1
1	0	1	1	1	1	1	1	0	1	1	1
1	1	0	0	1	1	1	0	1	1	1	1
1	1	0	1	1	1	0	1	1	1	1	1
1	1	1	0	1	0	1	1	1	1	1	1
1	1	1	1	0	1	1	1	1	1	1	1

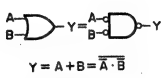
EN = EN1 · EN2 · EN3

0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE

SN74ALS32NS (TI) FLAT PACKAGE

TTL 2-INPUT POSITIVE-OR GATE
– TOP VIEW –



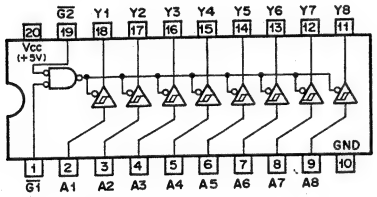


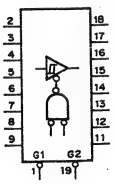
A	B	Y
0	0	0
0	1	1
1	0	1
1	1	1

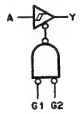
0:LOW LEVEL
1:HIGH LEVEL

SN74ALS541NS (TI) FLAT PACKAGE

TTL BUFFERS AND LINE DRIVERS WITH 3-STATE OUTPUTS
– TOP VIEW –





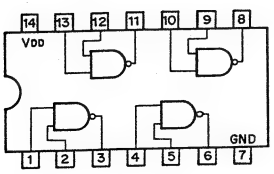


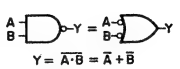
G1	G2	A	Y
0	0	0	0
0	0	1	1
1	X	X	HI-Z
X	1	X	HI-Z

0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE
HI-Z ; HIGH IMPEDANCE

SN74HC00ANS (TI) FLAT PACKAGE

C-MOS QUAD 2-INPUT NAND GATES
– TOP VIEW –





A	B	Y
0	0	1
0	1	1
1	0	1
1	1	0

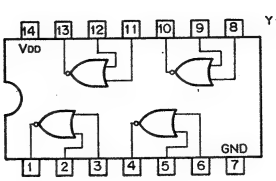
0;LOW LEVEL
1;HIGH LEVEL

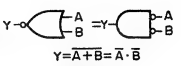
NOTE :

TYPE	VDD
TC74AC00 TYPE	+2 to +5.5V
MC74HCT00N	+5V
74ACT00 TYPE	+4.5 to +5.5V
OTHER TYPES	+2 to +6V

SN74HC02ANS (TI) FLAT PACKAGE

C-MOS QUAD 2-INPUT NOR GATES
– TOP VIEW –





A	B	Y
0	0	1
0	1	0
1	0	0
1	1	0

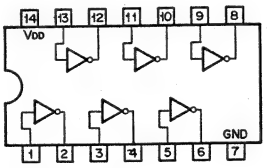
0:LOW LEVEL
1:HIGH LEVEL

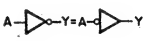
NOTE :

TYPE	VDD
TC74AC02F	+2 to +5.5V
74ACT02SJ TC74ACT02F	+4.5 to +5.5V
OTHER TYPES	+2 to +6V

SN74HC04ANS (TI) FLAT PACKAGE
SN74HCU04ANS (TI) FLAT PACKAGE

C-MOS HEX INVERTERS
– TOP VIEW –





A	Y
0	1
1	0

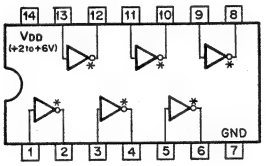
0:LOW LEVEL
1:HIGH LEVEL

NOTE :

TYPE	VDD
74HCT04 TYPE	+5V
TC74AC04 TYPE	+2 to +5.5V
74ACT04 TYPE	+4.5 to +5.5V
OTHER TYPES	+2 to +6V

SN74HC05ANS (TI) FLAT PACKAGE

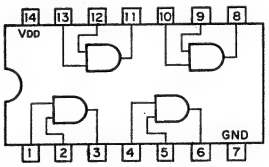
C-MOS HEX INVERTER WITH OPEN-DRAIN
– TOP VIEW –

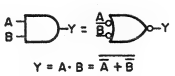


A	Y	
0	1	0 ; LOW LEVEL 1 ; HIGH LEVEL
1	0	* ; OPEN DRAIN

SN74HC08ANS (TI) FLAT PACKAGE

C-MOS QUAD 2-INPUT AND GATES
– TOP VIEW –





A	B	Y
0	0	0
0	1	0
1	0	0
1	1	1

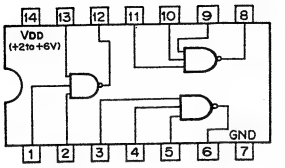
0 ; LOW LEVEL
1 ; HIGH LEVEL

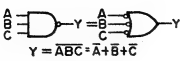
NOTE :

TYPE	VDD
TC74AC08F MC74ACT08M	+2 to +5.5V
OTHER TYPES	+2 to +6V

SN74HC10ANS (TI) FLAT PACKAGE

C-MOS 3-INPUT NAND GATE
– TOP VIEW –



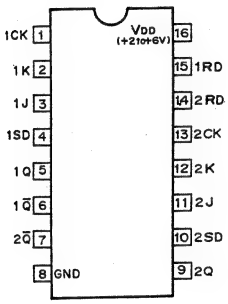


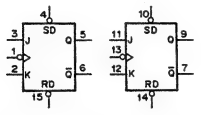
A	B	C	Y
0	0	0	1
0	0	1	1
0	1	0	1
0	1	1	1
1	0	0	1
1	0	1	1
1	1	0	1
1	1	1	0

0 : LOW LEVEL
1 : HIGH LEVEL

SN74HC112ANS (TI) FLAT PACKAGE

C-MOS J-K FLIP-FLOP WITH DIRECT SET/RESET
– TOP VIEW –



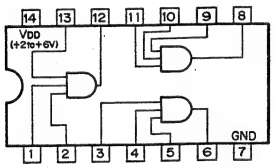


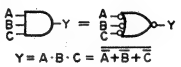
INPUT					OUTPUT	
SD	RD	CK	J	K	Qn+1	Qn+1
0	1	X	X	X	1	0
1	0	X	X	X	0	1
0	0	X	X	X	1*	1*
1	1	↓	0	0	Qn	Q̄n
			0	1	0	1
			1	0	1	0
			1	1	Q̄n	Qn
1	1	1	X	X	Qn	Q̄n

O; LOW LEVEL X; DON'T CARE
1; HIGH LEVEL *; NONSTABLE

SN74HC11ANS (TI) FLAT PACKAGE

C-MOS 3-INPUT POSITIVE-AND GATE



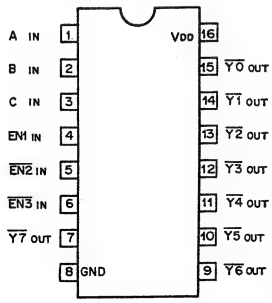


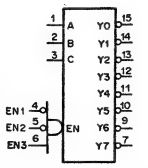
A	B	C	Y
0	0	0	0
0	0	1	0
0	1	0	0
0	1	1	0
1	0	0	0
1	0	1	0
1	1	0	0
1	1	1	1

O; LOW LEVEL
1; HIGH LEVEL

SN74HC138ANS (TI) FLAT PACKAGE

C-MOS 3-TO-8 LINE DECODER/DEMULTIPLEXER
– TOP VIEW –





INPUTS				OUTPUTS							
EN	C	B	A	Y7	Y6	Y5	Y4	Y3	Y2	Y1	Y0
0	X	X	X	1	1	1	1	1	1	1	1
1	0	0	0	1	1	1	1	1	1	1	0
1	0	0	1	1	1	1	1	1	1	0	1
1	0	1	0	1	1	1	1	1	0	1	1
1	0	1	1	1	1	1	1	0	1	1	1
1	1	0	0	1	1	1	0	1	1	1	1
1	1	0	1	1	1	0	1	1	1	1	1
1	1	1	0	1	0	1	1	1	1	1	1
1	1	1	1	0	1	1	1	1	1	1	1

EN = EN1·EN2·EN3

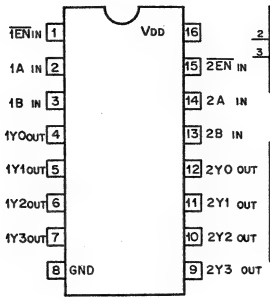
O; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE

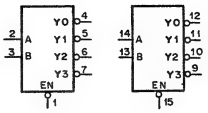
NOTE :

TYPE	VDD
74HCT138 TYPE	+5V
74ACT138 TYPE	+4.5 to +5.5V
TC74AC138 TYPE	+2 to +5.5V
OTHER TYPES	+2 to +6V

SN74HC139ANS (TI) FLAT PACKAGE

C-MOS DUAL 2-TO-4 DECODER/DEMULTIPLEXER
– TOP VIEW –





INPUTS			OUTPUTS			
EN	B	A	Y3	Y2	Y1	YO
0	0	0	1	1	1	0
0	0	1	1	1	0	1
0	1	0	1	0	1	1
0	1	1	0	1	1	1
1	X	X	1	1	1	1

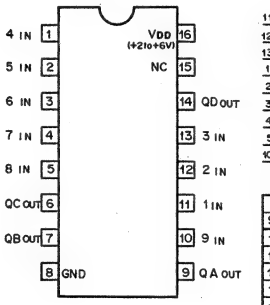
O ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE

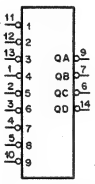
NOTE :

TYPE	VDD
74AC/74HC	+2 to +6V
74ACT	+5V
TC74AC139	+2 to +5.5V

SN74HC147NS (TI) FLAT PACKAGE

C-MOS 10-TO-4-LINE PRIORITY ENCODER
– TOP VIEW –



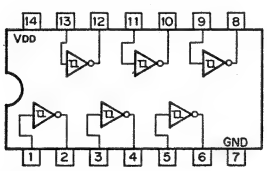


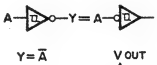
INPUT									OUTPUT			
9	8	7	6	5	4	3	2	1	QD	QC	QB	QA
1	1	1	1	1	1	1	1	1	1	1	1	1
1	1	1	1	1	1	1	1	0	1	1	1	0
1	1	1	1	1	1	1	0	X	1	1	0	1
1	1	1	1	1	1	0	X	X	1	1	0	0
1	1	1	1	1	0	X	X	X	1	0	1	1
1	1	1	1	0	X	X	X	X	1	0	1	0
1	1	1	0	X	X	X	X	X	1	0	0	1
1	1	0	X	X	X	X	X	X	1	0	0	0
1	0	X	X	X	X	X	X	X	0	1	1	1
0	X	X	X	X	X	X	X	X	0	1	1	0

O ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE

SN74HC14ANS (TI) FLAT PACKAGE

C-MOS HEX SCHMITT TRIGGER INVERTERS
– TOP VIEW –

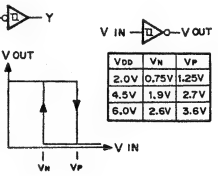




Y = Ā

A	Y
0	1
1	0

O ; LOW LEVEL
1 ; HIGH LEVEL



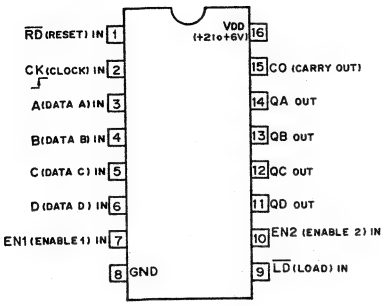
VDD	VN	VP
2.0V	0.75V	1.25V
4.5V	1.9V	2.7V
6.0V	2.6V	3.6V

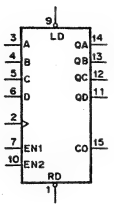
NOTE :

TYPE	VDD
TC74AC14 TYPE	+2 to +5.5V
OTHER TYPES	+2 to +6V

SN74HC161ANS (TI) (V_{DD} = +2 to +6V) FLAT PACKAGE

C-MOS SYNCHRONOUS PRESETTABLE 4-BIT BINARY COUNTER
– TOP VIEW –





MODE SELECTION

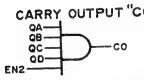
CONTROL INPUTS				MODE
RD	LD	EN1	EN2	
0	X	X	X	RESET (ASYNCHRONOUS)
1	0	X	X	PRESET (SYNCHRONOUS)
1	1	0	X	NO COUNT
1	1	X	0	NO COUNT
1	1	1	1	COUNT

0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE

COUNT SEQUENCE

COUNT	OUTPUTS			
	QD	QC	QB	QA
0	0	0	0	0
1	0	0	0	1
2	0	0	1	0
3	0	0	1	1
4	0	1	0	0
5	0	1	0	1
6	0	1	1	0
7	0	1	1	1
8	1	0	0	0
9	1	0	0	1
10	1	0	1	0
11	1	0	1	1
12	1	1	0	0
13	1	1	0	1
14	1	1	1	0
15	1	1	1	1

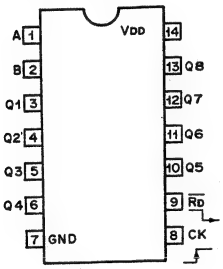
CARRY OUTPUT "CO"

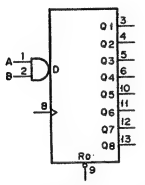


CO IS HIGH WHEN EN2 INPUT IS HIGH AND COUNT IS "15".

SN74HC164ANS (TI) FLAT PACKAGE

C-MOS 8-BIT SERIAL-IN/PARALLEL-OUT SHIFT REGISTER
– TOP VIEW –



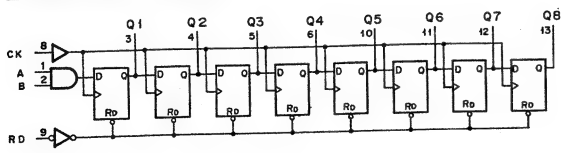


INPUTS				OUTPUTS			
RD	CK	A	B	Q1	Q2	----	Q8
0	X	X	X	0	0	0	0
1	0	X	X	Q1o	Q2o	----	Q8o
1	↑	1	1	1	Q1n	----	Q7n
1	↑	0	X	0	Q1n	----	Q7n
1	↑	X	0	0	Q1n	----	Q7n

0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE

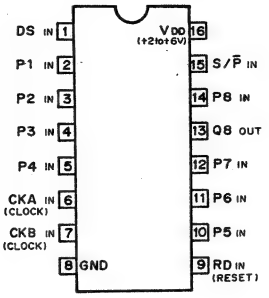
NOTE:

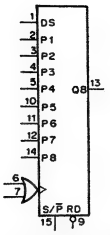
TYPE	VDD
TC74AC164 TYPE	+2 to +5.5V
OTHER TYPES	+2 to +6V



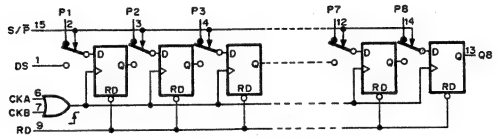
SN74HC166ANS (TI) FLAT PACKAGE

C-MOS 8-BIT SHIFT REGISTER
– TOP VIEW –





DS: DATA SERIAL INPUT
PI – P8: DATA PARALLEL INPUT
CK: CLOCK



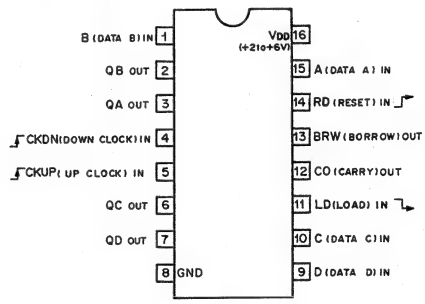
CKA	CKB	CK
0	0	0
X	1	1
1	X	1
1	↓	1
↓	1	1
0	↓	↓
↓	0	↓

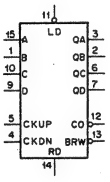
INPUT						OUTPUT
RD	S/P	CK	DS	PI-P8		Q8
0	X	X	X	X		0
1	X	0	X	X		Q8o
1	0	↓	X	1-8		8
1	1	↓	1	X		Q7n
1	1	↓	0	X		Q7n
1	X	↓	X	X		Q8o

0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE

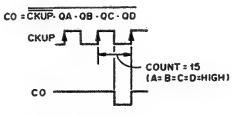
SN74HC193AN (TI)
SN74HC193ANS (TI) FLAT PACKAGE

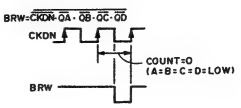
C-MOS PRESETTABLE SYNCHRONOUS 4-BIT UP/DOWN COUNTER
– TOP VIEW –





CONTROL INPUT				MODE
RD	LD	CKUP	CKDN	
1	X	X	X	RESET TO ZERO
0	0	X	X	PRESET
0	1	↑	1	UP COUNT
0	1	1	↑	DOWN COUNT
0	1	1	1	NO COUNT





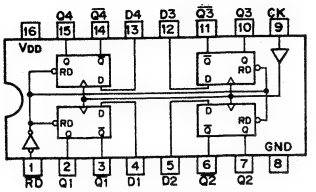
COUNT	OUTPUT			
	QD	QC	QB	QA
0	0	0	0	0
1	0	0	0	1
2	0	0	1	0
3	0	0	1	1
4	0	1	0	0
5	0	1	0	1
6	0	1	1	0
7	0	1	1	1
8	1	0	0	0
9	1	0	0	1
10	1	0	1	0
11	1	0	1	1
12	1	1	0	0
13	1	1	0	1
14	1	1	1	0
15	1	1	1	1

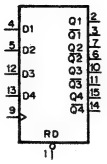
UP COUNT
DOWN COUNT

0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE

SN74HC175ANS (TI) FLAT PACKAGE

C-MOS QUAD D-TYPE FLIP-FLOPS WITH RESET
– TOP VIEW –





RD	CK	D	Q	$\overline{Q}$
0	X	X	0	1
1	↑	1	1	0
1	↑	0	0	1
1	0	X	Q_0	$\overline{Q_0}$

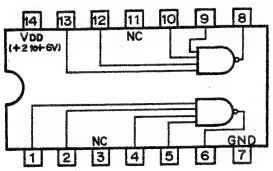
0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE
Q_0 ; NO CHANGE
$\overline{Q_0}$; NO CHANGE

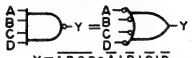
NOTE:

TYPE	VDD
TC74AC175F	+2 to +5.5V
74ACT175 TYPE	+4.5 to +5.5V
OTHER TYPES	+2 to +6V

SN74HC20ANS (TI) FLAT PACKAGE

C-MOS 4-INPUT POSITIVE-NAND GATE
– TOP VIEW –





A	B	C	D	Y
0	0	0	0	1
0	0	0	1	1
0	0	1	0	1
0	0	1	1	1
0	1	0	0	1
:	:	:	:	:
1	1	0	1	1
1	1	1	0	1
1	1	1	1	0

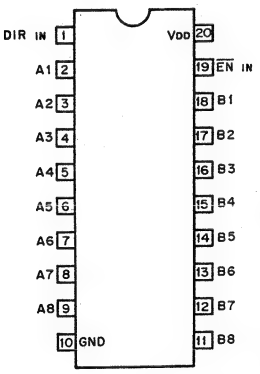
0 ; LOW LEVEL
1 ; HIGH LEVEL

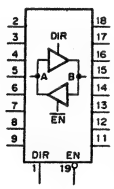
NOTE :

TYPE	VDD
TC74AC20	+2V to +5.5V
OTHER TYPES	+2V to +6V

SN74HC245ANS (TI) FLAT PACKAGE

C-MOS BILATERAL BUS TRANSCEIVERS WITH 3-STATE OUTPUTS
– TOP VIEW –



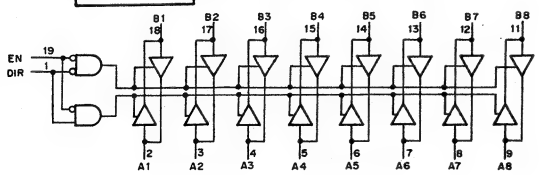


EN	DIR	OPERATION
0	0	B to A
0	1	A to B
1	X	HI-Z

0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE
HI-Z ; HIGH IMPEDANCE

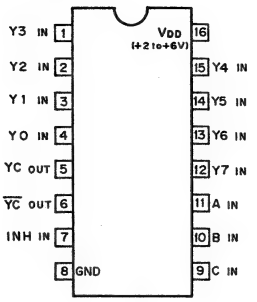
NOTE :

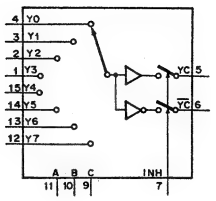
TYPE	VDD
AC HC	+2 to +6V
ACT HCT	+5V
TC74AC245F TC74AC245P	+2 to +5.5V



SN74HC251ANS (TI) FLAT PACKAGE

C-MOS 8-LINE-TO-1-LINE DATA SELECTOR/MULTIPLEXER WITH 3-STATE OUTPUT
– TOP VIEW –



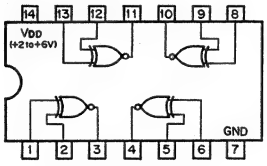


CONTROL IN				OUTPUT	
C	B	A	INH	YC	$\overline{YC}$
X	X	X	1	HI-Z	HI-Z
0	0	0	0	Y0	$\overline{Y0}$
0	0	1	0	Y1	$\overline{Y1}$
0	1	0	0	Y2	$\overline{Y2}$
0	1	1	0	Y3	$\overline{Y3}$
1	0	0	0	Y4	$\overline{Y4}$
1	0	1	0	Y5	$\overline{Y5}$
1	1	0	0	Y6	$\overline{Y6}$
1	1	1	0	Y7	$\overline{Y7}$

0 ; LOW LEVEL
1 ; HIGH LEVEL
HI-Z ; HIGH IMPEDANCE

SN74HC266NS (TI) FLAT PACKAGE

C-MOS 2-INPUT EXCLUSIVE-NOR GATE
– TOP VIEW –

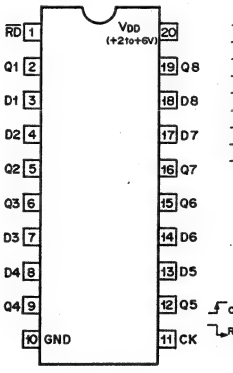


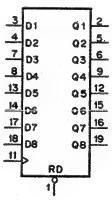
A	B	Y
0	0	1
0	1	0
1	0	0
1	1	1

0 ; LOW LEVEL
1 ; HIGH LEVEL

SN74HC273ANS (TI) FLAT PACKAGE

C-MOS OCTAL D-TYPE FLIP-FLOPS WITH RESET
– TOP VIEW –

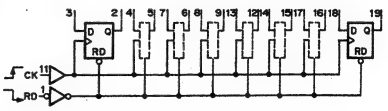




EACH FLIP-FLOP

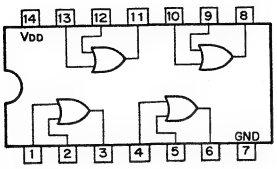
INPUT			OUT
RD	CK	D	Q
0	X	X	0
1	↑	0	0
1	↑	1	1
1	0	X	Q_0

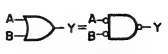
0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE



SN74HC32ANS (TI) FLAT PACKAGE

C-MOS QUAD 2-INPUT OR GATES
– TOP VIEW –





A	B	Y
0	0	0
0	1	1
1	0	1
1	1	1

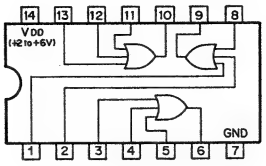
0;LOW LEVEL
1;HIGH LEVEL

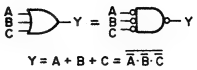
NOTE :

TYPE	VDD
TC74AC32 TYPE	+2 to +5.5V
OTHER TYPES	+2 to +6V

SN74HC4075ANS (TI) FLAT PACKAGE

C-MOS 3-INPUT OR GATE
– TOP VIEW –



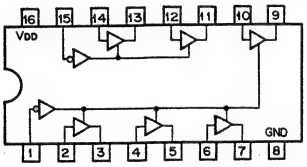


C	B	A	Y
0	0	0	0
X	X	1	1
X	1	X	1
1	X	X	1

0;LOW LEVEL
1;HIGH LEVEL
X;DON'T CARE

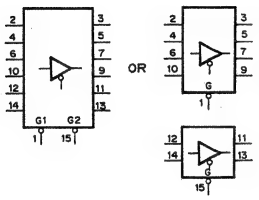
SN74HC367ANS (TI) FLAT PACKAGE

C-MOS BUS DRIVER WITH 3-STATE OUTPUTS
– TOP VIEW –



G	A	Y
0	0	0
0	1	1
1	X	HI-Z

0;LOW LEVEL
1;HIGH LEVEL
X;DON'T CARE
HI-Z;HIGH IMPEDANCE

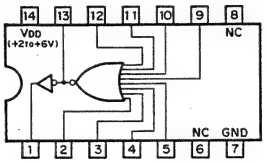


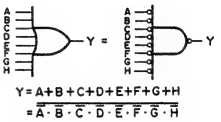
NOTE :

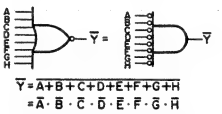
TYPE	VDD
TC74AC367	+2 to +5.5V
OTHER TYPES	+2 to +6V

SN74HC4078BNS (TI) FLAT PACKAGE

C-MOS 8-INPUT OR/NOR GATE
– TOP VIEW –





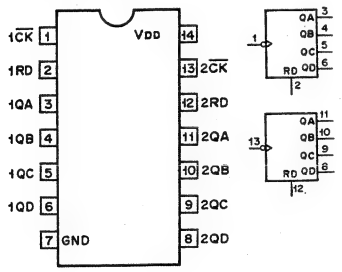


A	B	C	D	E	F	G	H	Y	$\overline{Y}$
0	0	0	0	0	0	0	0	0	1
0	0	0	0	0	0	0	0	1	0
0	0	0	0	0	0	0	1	0	1
0	0	0	0	0	0	0	1	1	0
:	:	:	:	:	:	:	:	:	:
1	1	1	1	1	1	1	1	0	1
1	1	1	1	1	1	1	1	1	0

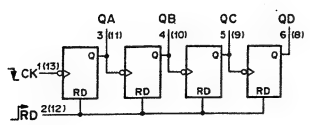
0;LOW LEVEL
1;HIGH LEVEL

SN74HC393ANS (TI) FLAT PACKAGE

C-MOS DUAL 4-BIT BINARY COUNTER
– TOP VIEW –



COUNT	QD	QC	QB	QA
0	0	0	0	0
1	0	0	0	1
2	0	0	1	0
3	0	0	1	1
4	0	1	0	0
5	0	1	0	1
6	0	1	1	0
7	0	1	1	1
8	1	0	0	0
9	1	0	0	1
10	1	0	1	0
11	1	0	1	1
12	1	1	0	0
13	1	1	0	1
14	1	1	1	0
15	1	1	1	1



RD	QD	QC	QB	QA
1	0	0	0	0
0	COUNT			

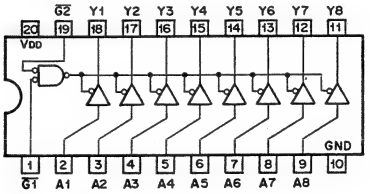
0;LOW LEVEL
1;HIGH LEVEL

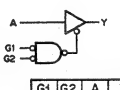
NOTE :

TYPE	VDD
74AC	+2 to 5.5V
74HC	+2 to 6V

SN74HC541ANS (TI) FLAT PACKAGE

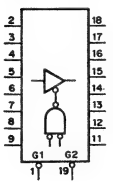
C-MOS BUFFERS AND LINE DRIVERS WITH 3-STATE OUTPUTS
– TOP VIEW –





G1	G2	A	Y
0	0	0	0
0	0	1	1
1	X	X	HI-Z
X	1	X	HI-Z

0;LOW LEVEL
1;HIGH LEVEL
X;DON'T CARE
HI-Z;HIGH IMPEDANCE



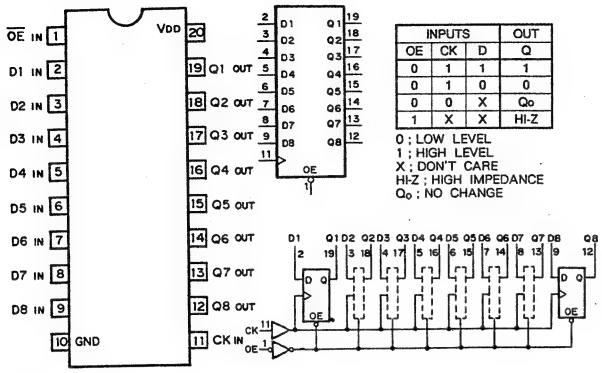
NOTE :

TYPE	VDD
AC	+2 to +5.5V
HC	+2 to +6V
ACT/BCT/HCT	+5V

SN74HC573BNS (TI) FLAT PACKAGE

C-MOS 3-STATE OUTPUTS OCTAL LATCHES

– TOP VIEW –



INPUTS			OUT
OE	CK	D	Q
0	1	1	1
0	1	0	0
0	0	X	Qo
1	X	X	HI-Z

0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE
HI-Z ; HIGH IMPEDANCE
Q_o ; NO CHANGE

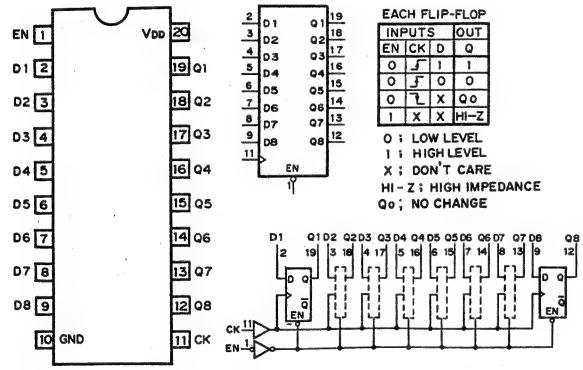
NOTE :

TYPE	VDD
AC	+2 to +6V
HC	
ACT	+5V
HCT	
TC74AC573	+2 to +5.5V

SN74HC574ANS (TI) FLAT PACKAGE
TC74AC574F (TOSHIBA) FLAT PACKAGE

C-MOS 3-STATE D-TYPE EDGE-TRIGGERED FLIP-FLOP

– TOP VIEW –



EACH FLIP-FLOP

INPUTS			OUT
EN	CK	D	Q
0	↑	1	1
0	↑	0	0
0	↓	X	Qo
1	X	X	HI-Z

0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE
HI-Z ; HIGH IMPEDANCE
Q_o ; NO CHANGE

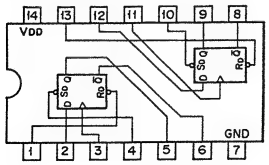
NOTE :

TYPE	VDD
74AC/74HC	+2 to +6V
74ACT/74HCT	+5V
TC74AC574F	+2 to +5.5V

SN74HC74AN (TI)
SN74HC74ANS (TI) FLAT PACKAGE

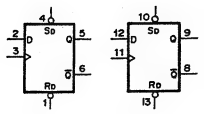
C-MOS DUAL D-TYPE FLIP-FLOPS WITH DIRECT SET/RESET

– TOP VIEW –



INPUTS				OUTPUTS	
$\overline{S_D}$	$\overline{R_D}$	CK	D	Qn+1	$\overline{Qn+1}$
0	1	X	X	1	0
1	0	X	X	0	1
0	0	X	X	1	1
1	1	↑	1	1	0
1	1	↑	0	0	1
1	1	0	X	Qn	$\overline{Qn}$

0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE



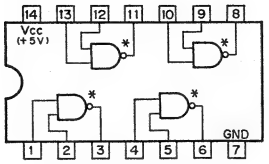
NOTE :

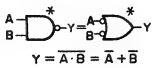
TYPE	VDD
TC74HCT74AF	+5V
TC74AC74 TYPE	+2 to +5.5V
74ACT74 TYPE	+4.5 to +5.5V
OTHER TYPES	+2 to +6V

SN74LS03NS (TI) FLAT PACKAGE

TTL 2-INPUT POSITIVE-NAND GATE WITH OPEN-COLLECTOR

– TOP VIEW –





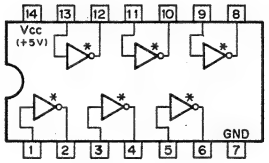
A	B	Y
0	0	1
0	1	1
1	0	1
1	1	0

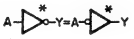
0;LOW LEVEL
1;HIGH LEVEL

SN74LS06NS (TI) FLAT PACKAGE

TTL INVERTER BUFFER/DRIVER WITH OPEN-COLLECTOR

– TOP VIEW –





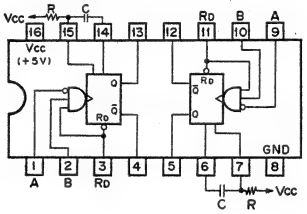
A	Y
0	1
1	0

0; LOW LEVEL
1; HIGH LEVEL
*; OPEN COLLECTOR

SN74LS123NS (TI) FLAT PACKAGE

TTL RETRIGGERABLE MONOSTABLE MULTIVIBRATOR WITH DIRECT RESET

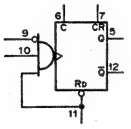
– TOP VIEW –

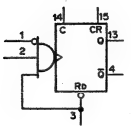


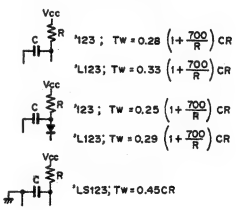
INPUTS			OUTPUTS	
$\overline{R_D}$	A	B	Q	$\overline{Q}$
0	X	X	0	1
X	1	X	0	1
X	X	0	0	1
1	0	↑	⊓	⊔
1	↓	1	⊓	⊔
↑	0	1	⊓	⊔

0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE

OUTPUT PULSE WIDTH



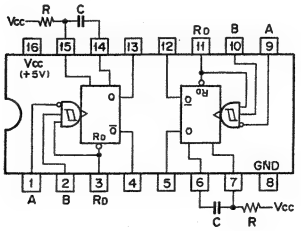




SN74LS221NS (TI) FLAT PACKAGE

TTL MONOSTABLE MULTIVIBRATOR WITH SCHMITT TRIGGER INPUT

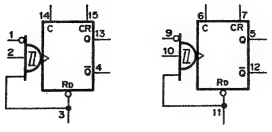
– TOP VIEW –



INPUTS			OUTPUTS	
$\overline{R_D}$	A	B	Q	$\overline{Q}$
0	X	X	0	1
X	1	X	0	1
X	X	0	0	1
1	0	↑	⊓	⊔
1	↓	1	⊓	⊔
↑	0	1	⊓	⊔

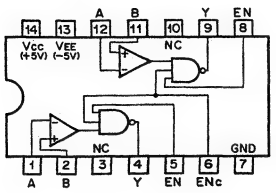
0;LOW LEVEL
1;HIGH LEVEL
X;DON'T CARE

OUTPUT PULSE WIDTH = 0.7CR



SN75207BNS (TI) FLAT PACKAGE

BIPOLAR LINE RECEIVER (TTL COMPATIBLE)
– TOP VIEW –

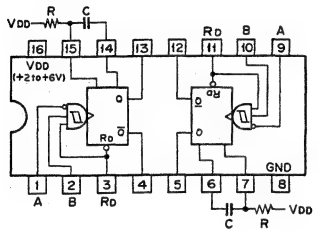


INPUTS			OUT
B−A	EN	ENc	Y
B−A ≧ 10mV	X	0	1
	0	X	1
	1	1	0
|B−A| < 10mV	X	0	1
	0	X	1
	1	1	*
B−A ≦ −10mV	X	X	1

0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE
* ; INDETERMINATE

TC74HC221AF (TOSHIBA) FLAT PACKAGE

C-MOS MONOSTABLE MULTIVIBRATOR WITH SCHMITT TRIGGER INPUT
– TOP VIEW –



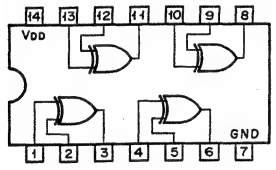
INPUTS			OUTPUTS	
RD	A	B	Q	Q̄
0	X	X	0	1
X	1	X	0	1
X	X	0	0	1
1	0	↑	⊓	⊔
1	↓	1	⊓	⊔
↑	0	1	⊓	⊔

0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE

OUTPUT PULSE WIDTH = 0.7CR

TC74HC86AF (TOSHIBA) FLAT PACKAGE

C-MOS QUAD EXCLUSIVE OR GATES
– TOP VIEW –



A	B	Y
0	0	0
0	1	1
1	0	1
1	1	0

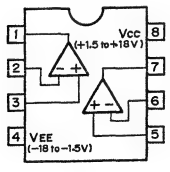
0 ; LOW LEVEL
1 ; HIGH LEVEL

NOTE :

TYPE	VDD
TC74AC86 TYPE	+2 to +5.5V
OTHER TYPES	+2 to +6V

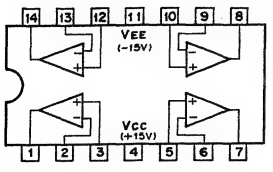
TL062CPS (TI) FLAT PACKAGE
TL082CPS (TI) FLAT PACKAGE

OPERATIONAL AMPLIFIER
(JFET INPUT)
– TOP VIEW –



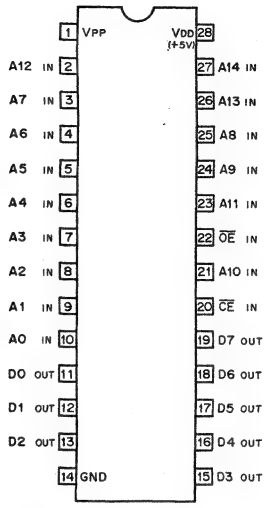
TL084CNS (TI) FLAT PACKAGE

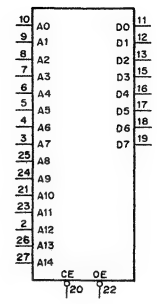
OPERATIONAL AMPLIFIER
(J FET-INPUT)
– TOP VIEW –

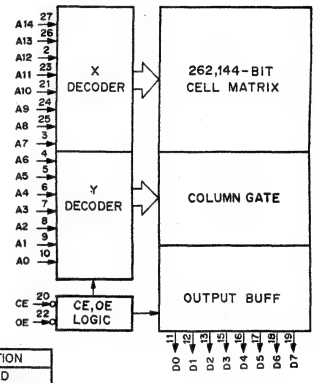


TMS27C256-20JL (TI)

C-MOS 256K (32Kx8)-BIT ERASABLE PROM WITH 3-STATE OUTPUTS
– TOP VIEW –







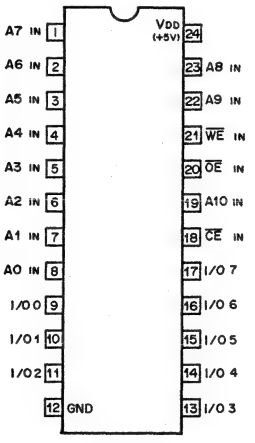
A0 – A14 ; ADDRESS INPUT
CE ; CHIP ENABLE INPUT
D0 – D7 ; DATA OUTPUT
OE ; OUTPUT ENABLE INPUT
VPP ; PROGRAM POWER SUPPLY

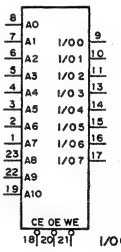
An	CE	OE	VPP	Dn	FUNCTION
An	0	0	+ 5V	DOUT	READ
An	0	1	+ 5V	HI-Z	OUTPUT DISABLE
X	1	X	+ 5V	HI-Z	STANDBY
An	0	1	+ 21V	DIN	PGM
An	0	0	+ 21V	DOUT	PGM VERIFY
X	1	1	+ 21V	HI-Z	PGM INH

0 : LOW LEVEL
1 : HIGH LEVEL
X : DON'T CARE
HI-Z : HIGH IMPEDANCE

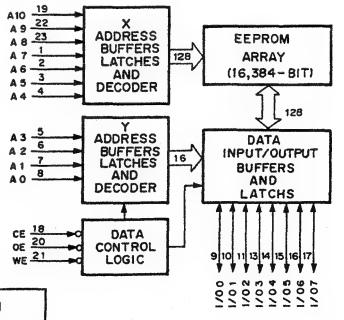
X2816CP-20 (XICOR)

N-MOS 2K (2048x8)-BIT ELECTRIC ERASABLE PROM
– TOP VIEW –





A0 – A10 ; ADDRESS INPUTS
CE ; CHIP ENABLE
OE ; OUTPUT ENABLE
WE ; WRITE ENABLE
I/O0 – I/O 7 ; DATA INPUTS/OUTPUTS



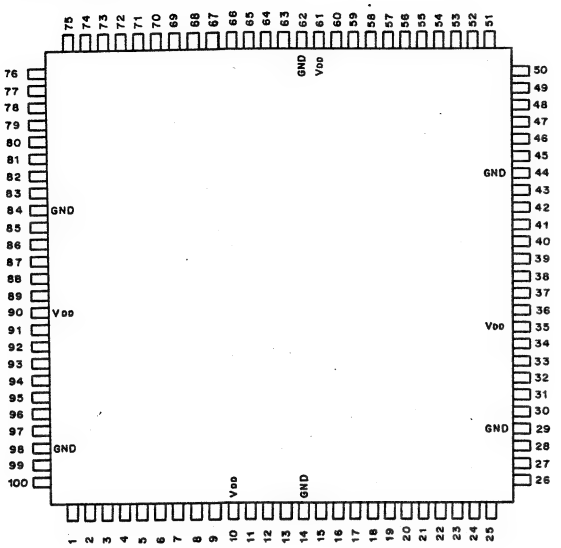
INPUTS			DATA	FUNCTION
CE	OE	WE		
0	0	1	OUT	READ
0	1	⊓	IN	WE CONTROL WRITE (BYTE WRITE)
⊓	1	0	IN	CE CONTROL WRITE (BYTE WRITE)
1	X	X	HI-Z	STANDBY/ WRITE INHIBIT
X	X	1	–	WRITE INHIBIT
X	0	X		

0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE
HI-Z ; HIGH IMPEDANCE

TMP68301F-12 (TOSHIBA)

C-MOS 16-BIT MICRO PROCESSOR

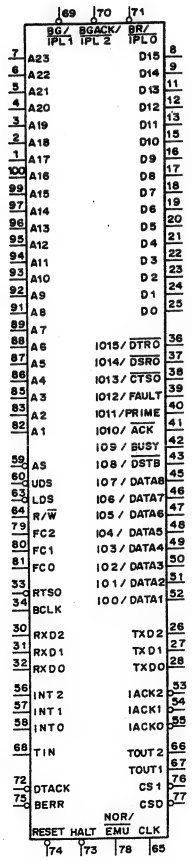
– TOP VIEW –



(V_{DD} = +5.0 V)

PIN NO.	I/O	SIGNAL	PIN NO.	I/O	SIGNAL	PIN NO.	I/O	SIGNAL	PIN NO.	I/O	SIGNAL
1	I/O	A17	26	O	TXD2	51	I/O	IO1/DATA2	76	O	$\overline{CS1}$
2	I/O	A18	27	O	TXD1	52	I/O	IO0/DATA1	77	O	$\overline{CS0}$
3	I/O	A19	28	O	TXD0	53	O	$\overline{IACK2}$	78	I	NOR/$\overline{EMU}$
4	I/O	A20	29	—	GND	54	O	$\overline{IACK1}$	79	I/O	FC2
5	I/O	A21	30	I	RXD2	55	O	$\overline{IACK0}$	80	I/O	FC1
6	I/O	A22	31	I	RXD1	56	I	INT2	81	I/O	FC0
7	I/O	A23	32	I	RXD0	57	I	INT1	82	I/O	A1
8	I/O	D15	33	I/O	$\overline{RTSO}$	58	I	INT0	83	I/O	A2
9	I/O	D14	34	I	BCLK	59	I/O	$\overline{AS}$	84	—	GND
10	—	V_{DD} (+5.0 V)	35	—	V_{DD} (+5.0 V)	60	I/O	$\overline{UDS}$	85	I/O	A3
11	I/O	D13	36	I/O	IO15/$\overline{DTRO}$	61	—	V_{DD} (+5.0 V)	86	I/O	A4
12	I/O	D12	37	I/O	IO14/$\overline{DSRO}$	62	—	GND	87	I/O	A5
13	I/O	D11	38	I/O	IO13/$\overline{CTSO}$	63	I/O	$\overline{LDS}$	88	I/O	A6
14	—	GND	39	I/O	IO12/FAULT	64	I/O	R/$\overline{W}$	89	I/O	A7
15	I/O	D10	40	I/O	IO11/PRIME	65	I	CLK	90	—	V_{DD} (+5.0 V)
16	I/O	D9	41	I/O	IO10/$\overline{ACK}$	66	O	TOUT2	91	I/O	A8
17	I/O	D8	42	I/O	IO9/BUSY	67	O	TOUT1	92	I/O	A9
18	I/O	D7	43	I/O	IO8/$\overline{DSTB}$	68	I	TIN	93	I/O	A10
19	I/O	D6	44	—	GND	69	O	$\overline{BG}$/IPL1	94	I/O	A11
20	I/O	D5	45	I/O	IO7/DATA8	70	I/O	$\overline{BGACK}$/IPL2	95	I/O	A12
21	I/O	D4	46	I/O	IO6/DATA7	71	I/O	$\overline{BR}$/IPL0	96	I/O	A13
22	I/O	D3	47	I/O	IO5/DATA6	72	I	$\overline{DTACK}$	97	I/O	A14
23	I/O	D2	48	I/O	IO4/DATA5	73	I/O	$\overline{HALT}$	98	—	GND
24	I/O	D1	49	I/O	IO3/DATA4	74	I/O	$\overline{RESET}$	99	I/O	A15
25	I/O	D0	50	I/O	IO2/DATA3	75	I	$\overline{BERR}$	100	I/O	A16

V_{DD}= + 5.0 V



INPUT

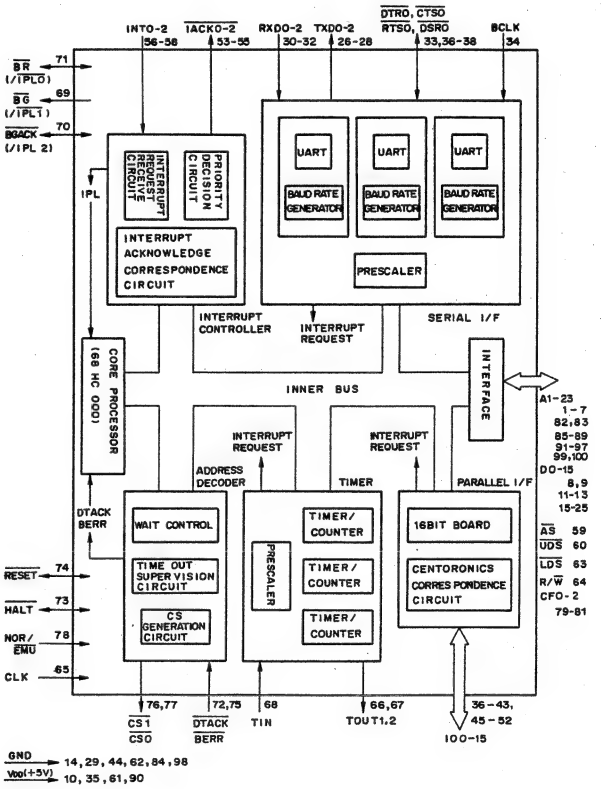
BCLK	; BAUD RATE CLOCK
$\overline{BERR}$	; BUS ERROR
CLK	; CLOCK
$\overline{DTACK}$	; DATA TRANSFER ACKNOWLEDGE
INT0-2	; INTERRUPT REQUESTS
NOR/$\overline{EMU}$	; MODE SELECT
RXD0-2	; RECEIVE DATA
TIN	; TIMER INPUT

OUTPUT

$\overline{BG}$ (/IPL1)	; BUS GROUND
$\overline{CS0, 1}$	; CHIP SELECTS
$\overline{IACK0-2}$	; INTERRUPT ACKNOWLEDGE
TOUT1, 2	; TIMER OUTPUTS
TXD0-2	; TRANSFER DATA

INPUT/OUTPUT

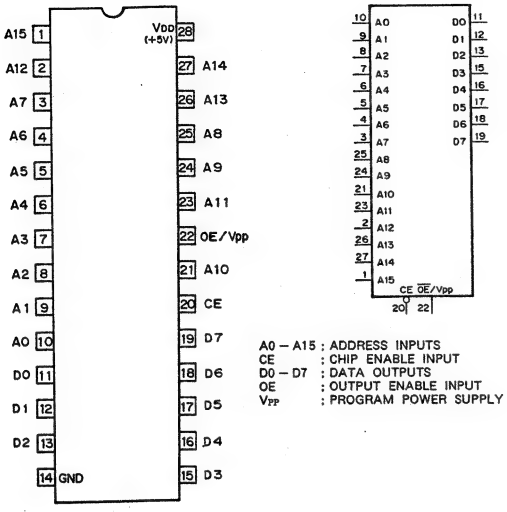
A1-23	; ADDRESS BUS
$\overline{ACK}$	; I/O PORT
$\overline{AS}$	; ADDRESS STROBE
$\overline{BGACK}$ (/IPL2)	; BUS GROUND ACKNOWLEDGE
$\overline{BR}$ (/IPL0)	; BUS REQUEST
BUSY	; I/O PORT
$\overline{CTSO}$, $\overline{DSRO}$, $\overline{DTRO}$, $\overline{DSTB}$	; I/O PORTS
D0-15	; DATA BUS
DATA1-8	; I/O PORTS
FAULT	; I/O PORT
FC0-2	; FUNCTION CORDS
$\overline{HALT}$	; HALT
IO0-15	; I/O PORT
$\overline{LDS}$	; LOWER DATA STROBE
PRIME	; I/O PORT
$\overline{RESET}$	; RESET
$\overline{RTSO}$	; TRANSFER REQUEST
R/$\overline{W}$	; READ/WRITE
$\overline{UDS}$	; UPPER DATA STROBE



TMS27C512-15JL (TI)

C-MOS 512K (65,536x8 = 524,288)-BIT ERASABLE PROM

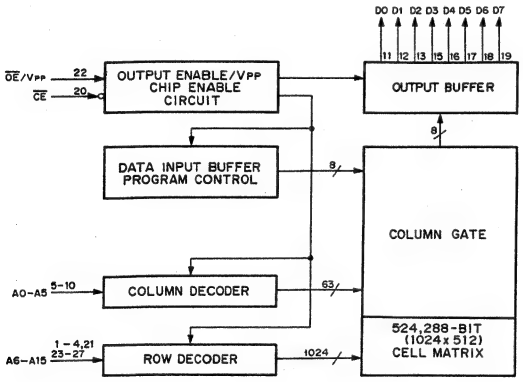
– TOP VIEW –



A0 – A15 : ADDRESS INPUTS
CE : CHIP ENABLE INPUT
D0 – D7 : DATA OUTPUTS
OE : OUTPUT ENABLE INPUT
VPP : PROGRAM POWER SUPPLY

An	CE	OE/VPP	VDD	Dn	FUNCTION
AIN	0	0	+5V	DOUT	READ
AIN	0	1	+5V	HI-Z	OUTPUT DISABLE
X	1	X	+5V	HI-Z	STANDBY
AIN	0	+12.5V	+6V	DIN	PGM
AIN	0	0	+6V	DOUT	PGM VERIFY
X	1	+12.5V	+6V	HI-Z	PGM INH

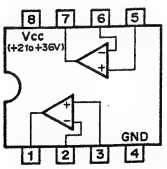
0 : LOW LEVEL
1 : HIGH LEVEL
X : DON'T CARE
HI-Z : HIGH IMPEDANCE



UPC393C (NEC)

DUAL VOLTAGE COMPARATORS

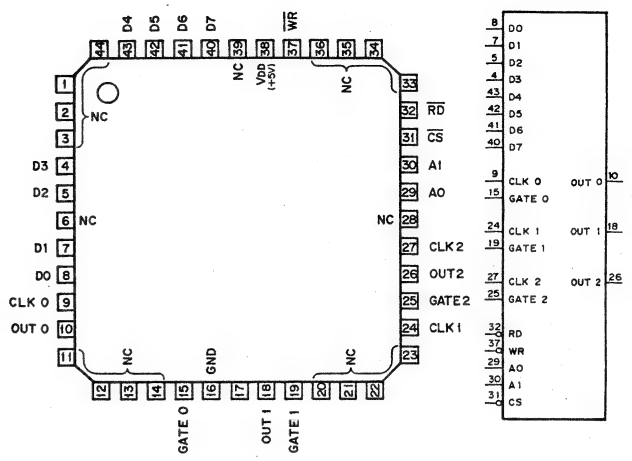
– TOP VIEW –



UPD71054GB-10-3B4 (NEC) FLAT PACKAGE

C-MOS PROGRAMMABLE TIMER COUNTER

– TOP VIEW –



FUNCTION TABLE

INPUTS					FUNCTION
CS	RD	WR	A1	A0	
0	1	0	0	0	COUNTER NO. 1 WRITE
0	1	0	0	1	COUNTER NO. 2 WRITE
0	1	0	1	0	COUNTER NO. 3 WRITE
0	1	0	1	1	CONTROL WORD WRITE
0	0	1	0	0	COUNTER NO. 1 READ
0	0	1	0	1	COUNTER NO. 2 READ
0	0	1	1	0	COUNTER NO. 3 READ
0	0	1	1	1	NO-OPERATION (HI-Z)
1	X	X	X	X	DISABLE (HI-Z)
0	1	1	X	X	NO-OPERATION (HI-Z)

A1,A0 ; SELECTED READ/WRITE OPERATION
CLK n ; COUNTER CLOCK INPUT n
CS ; CHIP SELECT
D7-D0 ; 8-BIT DATA I/O
GATE n; COUNTER GATE INPUT n
IC ; INTERNALLY CONNECTED
OUT n ; COUNTER CLOCK OUTPUT n
RD ; READ COUNTER/STATUS
WR ; WRITE COMMAND/DATA

0;LOW LEVEL
1;HIGH LEVEL
X;DON'T CARE
HI-Z;HIGH IMPEDANCE

CONTROL WORD FORMAT

D7	D6	D5	D4	D3	D2	D1	D0
SC1	SC0	RWM1	RWM0	CM2	CM1	CM0	BCD

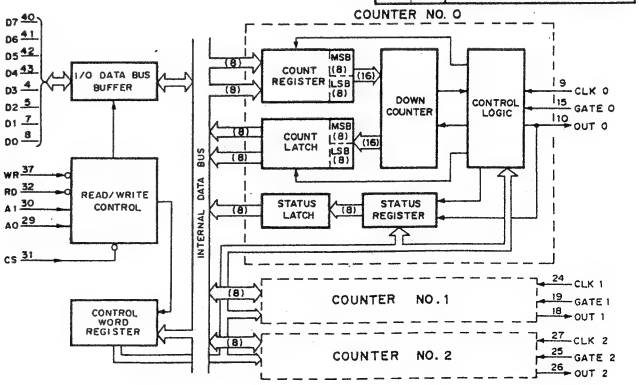
BCD : BINARY CODED DECIMAL

BCD	COUNTER OPERATION
0	16-BIT BINARY COUNT
1	4-FIGURE BCD COUNT

CM2	CM1	CM0	COUNTER MODE
0	0	0	MODE 0
0	0	1	MODE1
X	1	0	MODE 2
X	1	1	MODE 3
1	0	0	MODE 4
1	0	1	MODE 5

RWM1	RWM0	READ/WRITE MODE
0	0	COUNTER LATCHING CMD.
0	1	LSB ONLY
1	0	MSB ONLY
1	1	LSB FIRST THEN MSB

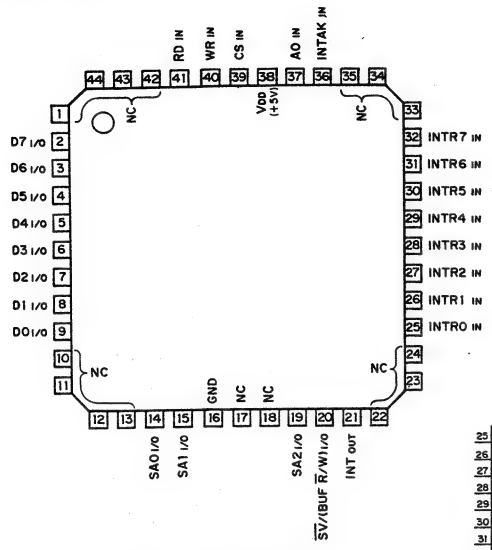
SC1	SC0	OPERATION
0	0	SELECTED COUNTER No.0
0	1	SELECTED COUNTER No.1
1	0	SELECTED COUNTER No.2
1	1	MULTIPLE LATCH COMMAND

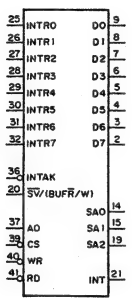


UPD71059GB-10-3B4 (NEC) FLAT PACKAGE

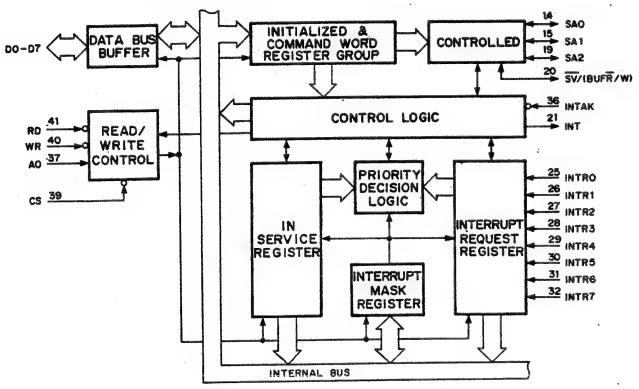
C-MOS INTERRUPT CONTROL UNIT

– TOP VIEW –





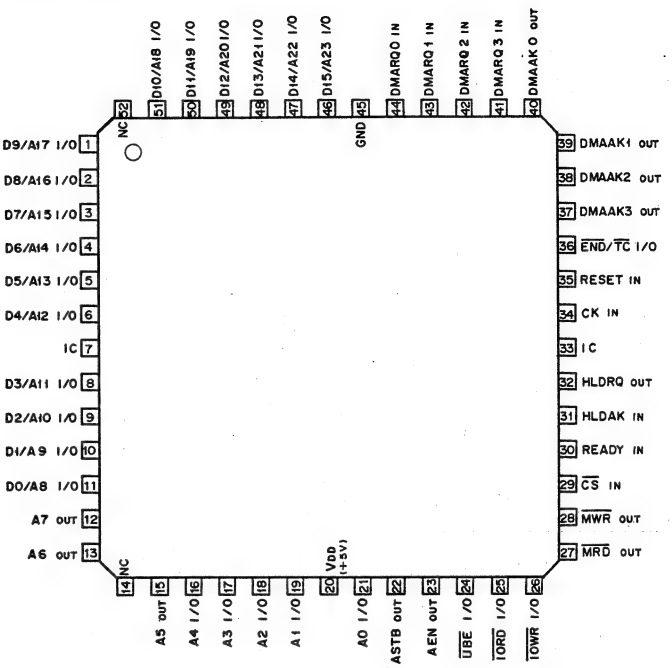
INTR0–INTR7 ; INTERRUPT REQUEST INPUTS
D0–D7 ; DATA BUS INPUTS/OUTPUTS
CS ; CHIP SELECT INPUT
RD ; READ STROBE INPUT
WR ; WRITE STROBE INPUT
A0 ; ADDRESS INPUT
INT ; INTERRUPT OUTPUT
INTAK ; INTERRUPT ACKNOWLEDGE INPUT
SV/(BUFR/W) ; CONTROLLED/BUFFER READ/WRITE INPUT/OUTPUT
SA0–SA2 ; CONTROLLED ADDRESS INPUTS/OUTPUTS



UPD71071GC3B6 (NEC) FLAT PACKAGE

C-MOS DIRECT MEMORY ACCESS CONTROLLER

– TOP VIEW –



INPUT

CK ; CLOCK
CS ; CHIP SELECT
DMARQ0-3 ; DMA REQUEST (*1)
HLDAK ; HOLD ACKNOWLEGE

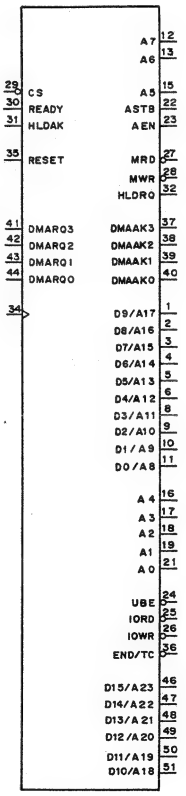
OUTPUT

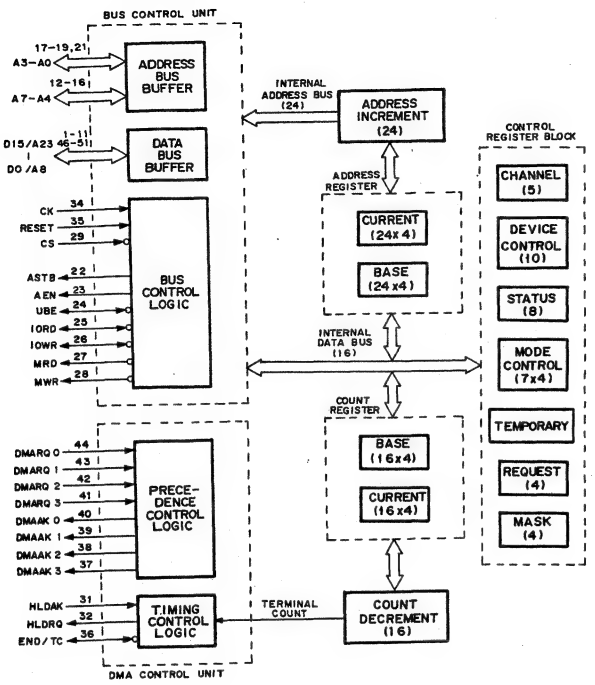
AEN ; ADDRESS ENABLE
ASTB ; ADDRESS STROBE
DMAAK0-3 ; DMA ACKNOWLEDGE (*1)
HLDRQ ; HOLD REQUEST
MRD ; MEMORY READ
MWR ; MEMORY WRITE

INPUT/OUTPUT

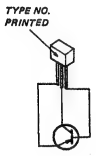
A0-A7 ; ADDRESS BUS INPUTS/OUTPUTS
D0-D15 ; DATA BUS INPUTS/OUTPUTS
END/TC ; END/TERMINAL COUNT
IORD ; I/O READ
IOWR ; I/O WRITE
UBE ; UPPER BYTE ENABLE

*1 DMA ; DIRECT MEMORY ACCESS





TRANSISTOR



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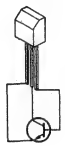

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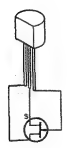
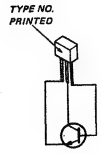
2SC1815

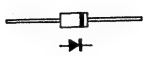


2SK523

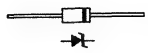


2SC2785

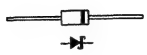
DIODE



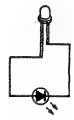
10E-2
1S1588
1SS119
1SS168



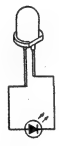
RD ? ?ESB ?



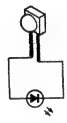
1SS97
ERB81-004



TLG124A ; GREEN
TLO124 ; ORANGE
TLY123 ; YELLOW



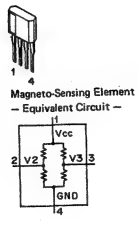
EBR5534S ; RED



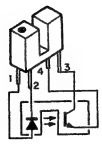
TLG223 ; GREEN

PY5504S ; YELLOW

OTHERS



DM211A



TLP801A

SECTION 5
SPARE PARTS & OPTIONAL FIXTURES

5-1. NOTES ON SPARE PARTS

(1) Safety Related Components Warning

Components marked with ⚠ on the schematic diagrams, exploded views and electrical spare parts list are critical to safe operation.

Replace these components with Sony parts whose part numbers appear in this manual or in service bulletins and service manual supplements published by Sony.

(2) Standardization of Parts

Spare parts supplied from Sony Parts Center may not always be identical with the parts actually in use due to accommodating the improved parts and/or engineering changes or standardization of genuine parts.

This manual's exploded views and electrical spare parts list indicate the part numbers of the standardized genuine parts at present.

(3) Stock of Part

Parts marked with "o" in the SP(Supply code)column of the spare parts list are not normally required for routine service work. Orders for parts marked with "o" will be processed, but allow for additional time for delivery.

(4) Units for Capacitors, Inductors and resistors

The following units may be assumed in schmatic diagrams, electrical parts list and exploded views unless otherwise specified.

Capacitor: μ F
Inductor : μ H
Resistor : Ω

補修用部品注意事項

(1) 安全重要部品

回路図、分解図、電気部品表中、⚠印の部品は安全性を維持するために重要な部品です。従ってこれらの部品を交換するときには必ず指定の部品と交換してください。

(2) 部品の共通化

ソニーから供給される部品はセットに実装されているものと異なることがあります。これは部品の共通化、改良等によるものです。

分解図や電気部品表には現時点での共通化された部品が記載されています。

(3) 部品の在庫

部品表のSP(Supply code)欄にOで示される部品は交換頻度が低い部品ですので在庫していないことがあり、納期が長くなることがあります。

(4) コンデンサ、インダクター、抵抗の単位

回路図、分解図、電気部品表中、特に明記したものを除き、下記の単位は省略されています。

コンデンサ: μF
インダクタ: μH
抵抗 : Ω

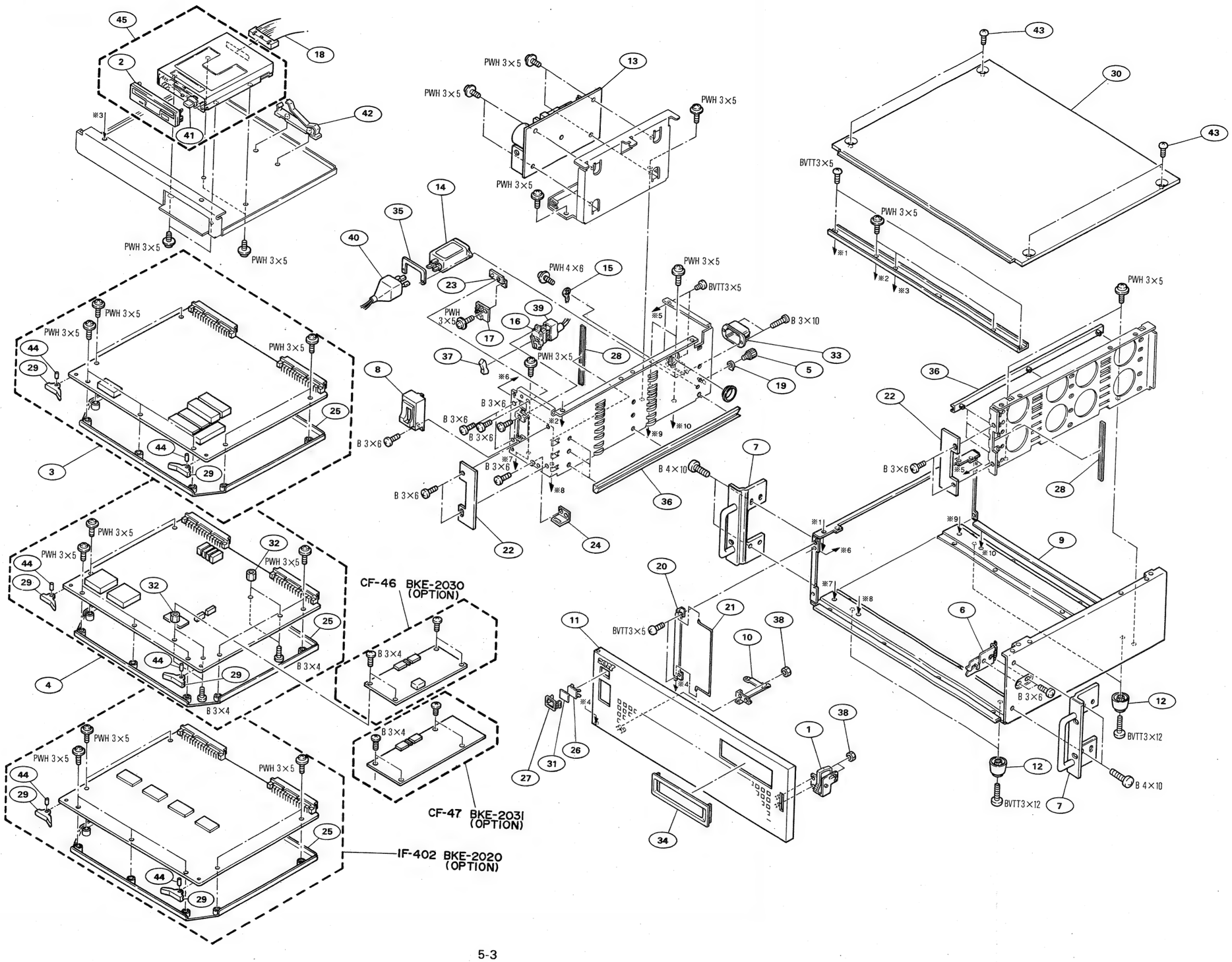
5-2. EXPLODED VIEWS

BVE-2000 CHASSIS AND PRINTED CIRCUIT BOARD

No.		Part No.	SP	Description
1		A-6279-484-D	o	HANDLE ASSY, DOOR
2		A-8030-646-A	s	PANEL ASSY, FRONT (FD DRIVE)
3		A-8271-804-A	o	MOUNTED CIRCUIT BOARD, SY-184
4		A-8271-805-A	o	MOUNTED CIRCUIT BOARD, IF-391
5		X-2068-004-1	s	TERMINAL ASSY
6		X-2127-216-1	o	LOCK ASSY, DOOR
7		X-2127-218-3	o	ANGLE (3U) ASSY, RACK
8		X-2127-224-1	s	BRACKET ASSY, SW
9		X-2127-229-1	o	CHASSIS ASSY, 3U
10		X-2182-907-3	s	STOPPER ASSY
11		X-3166-965-1	o	PANEL ASSY, FRONT
12		X-3566-109-0	s	FOOT ASSY, MF
13	⚠	1-413-647-11	s	SWITCHING REGULATOR
14	⚠	1-526-813-31	s	INLET, AC 3P
15		1-535-316-11	s	TERMINAL, GROUND (M4)
16	⚠	1-570-117-41	s	SWITCH, SEESAW (AC POWER)
17		1-620-338-11	s	PRINTED CIRCUIT BOARD, LE-55
18		1-951-204-12	o	HARNESS, SUB(FDCC)
19		2-068-008-00	s	WASHER
20		2-139-012-01	o	HINGE (3U)
21		2-139-020-01	o	SHAFT (3U), HINGE
22		2-139-069-01	o	RETAINER, PC BOARD
23		2-139-108-01	o	BRACKET, LED
24		2-139-109-01	o	TABEL (R), STOPPER
25		2-139-140-01	o	PLATE, SHIELD
26		2-139-192-01	o	FRAME, INDICATOR WINDOW
27		2-139-193-01	o	WINDOW, INDICATOR
28		2-139-217-01	o	RETAINER (3U)
29		2-182-909-01	o	LEVER, PC BOARD
30		2-182-935-01	o	PLATE (D350),TOP
31		2-249-353-00	o	COVER, LAMP
32		2-280-622-01	o	SUPPORT (M3), HEXAGON
33		2-990-241-02	s	HOLDER (A), PLUG
34		3-179-257-01	o	ESCUTCHEON, FD
35		3-625-620-00	s	BRACKET, AC CONNECTOR
36		3-673-676-41	o	RAIL, GUIDE, PC BOARD
37		3-688-814-01	s	CAP, SWITCH
38		4-334-513-00	s	NUT, NYLON
39		4-378-341-01	o	COVER, SWITCH
40		4-601-466-11	o	COVER, 3P INLET
41		4-613-121-45	s	BUTTON, EJECT
42		4-874-187-01	o	CLIP, CABLE
43		4-886-821-11	s	SCREW, M3 CASE
44		7-626-320-11	s	PIN, SPRING 3X8
45		8-422-372-70	o	MP-F17W-L5/2 (FD DRIVE UNIT)

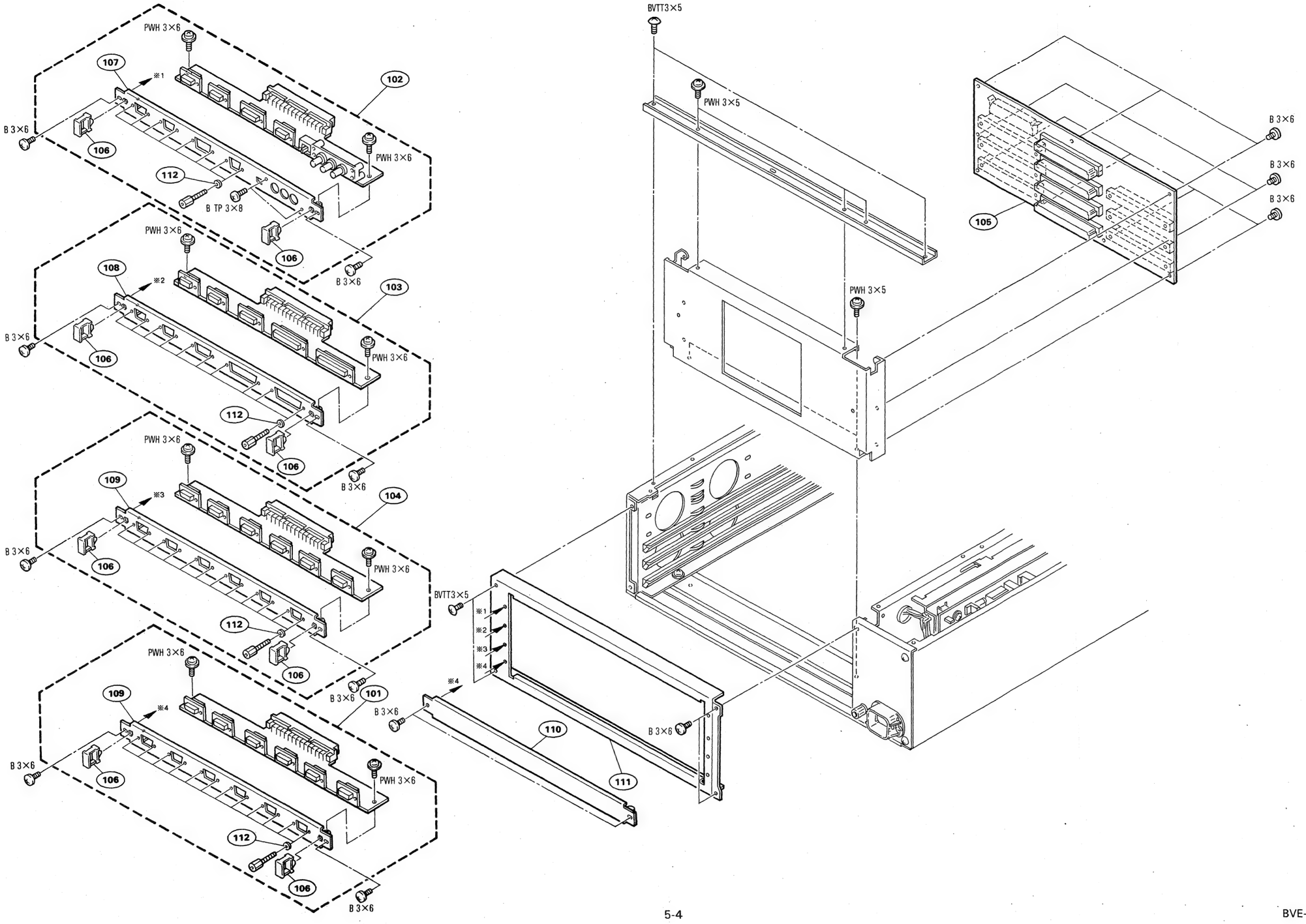
BVE-2000 CHASSIS AND PRINTED CIRCUIT BOARD

BVE-2000 Chassis and printed circuit board



5-3

BVE-2000 Rear panel



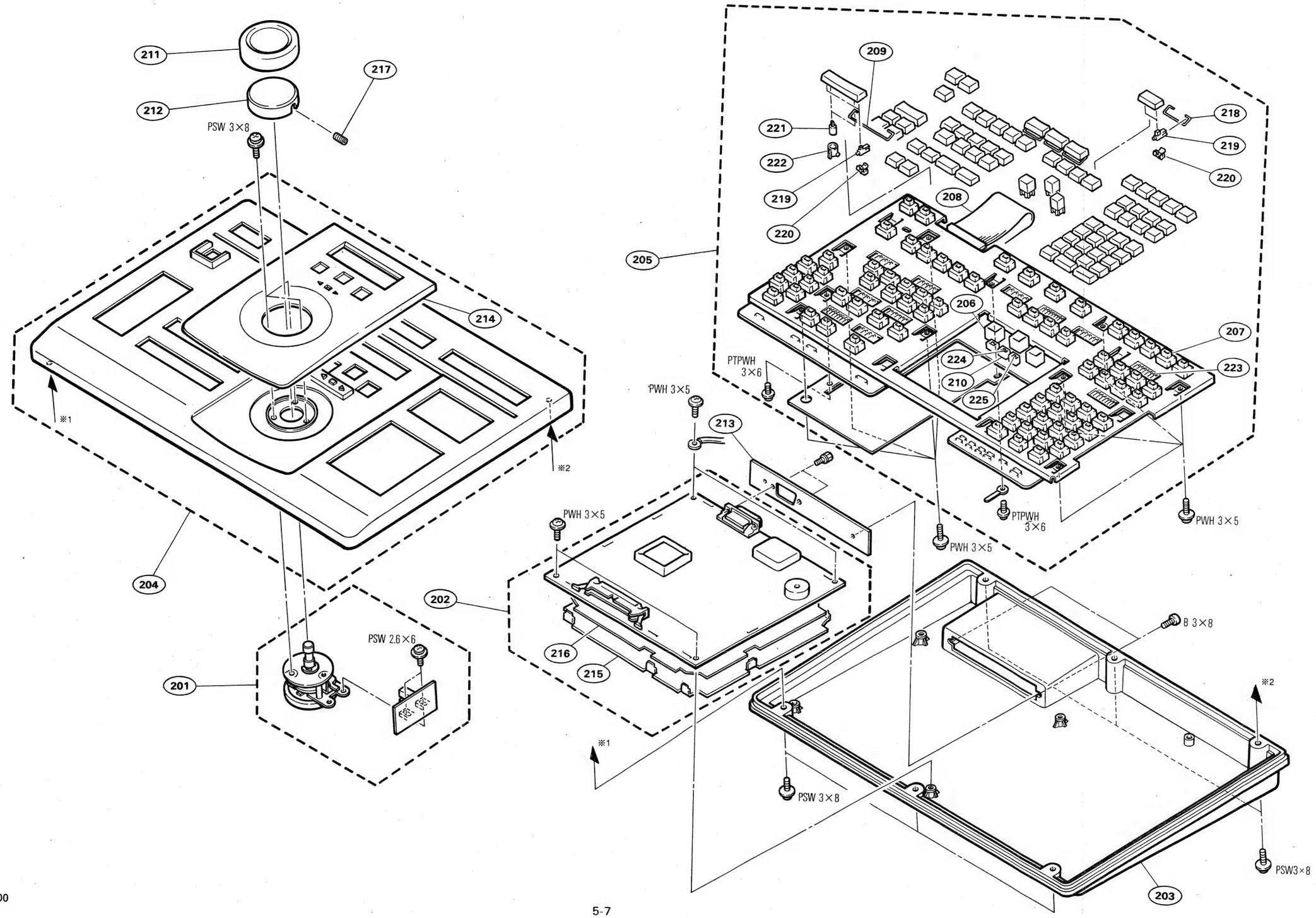
BVE-2000 REAR PANEL

No.	Part No.	SP	Description
101	A-8267-078-A	o	CN-788 ASSY(BKE-2020)
102	A-8267-085-A	o	CN-781 ASSY
103	A-8267-086-A	o	CN-786 ASSY
104	A-8267-087-A	o	CN-787 ASSY
105	A-8276-493-A	o	MOUNTED CIRCUIT BOARD, MB-454
106	3-172-089-01	o	HANDLE
107	3-179-253-01	o	PANEL (1), CONNECTOR
108	3-179-254-01	o	PANEL (2), CONNECTOR
109	3-179-255-01	o	PANEL (3,4), CONNECTOR
110	3-179-256-01	o	PANEL (BLANK), CONNECTOR
111	3-179-265-01	o	PANEL, REAR
112	7-688-002-03	s	W 2.6, SMALL

BKE-2010 KEY BOARD

No.	Part No.	SP	Description
201	A-8267-138-A	o	CLUTCH ASSY
202	A-8271-803-A	o	MOUNTED CIRCUIT BOARD, CPU-132
203	X-3166-919-1	o	PANEL ASSY, BASE
204	X-3166-934-1	o	PANEL ASSY, KEY
205	1-466-956-11	o	KEY ASSY
206	1-571-167-11	s	SWITCH, TACTIL
207	1-571-505-11	s	SWITCH, KEY BOARD (WITH LED)
208	1-951-235-11	o	HARNESS, SUB(KYFLAT)
209	2-114-404-01	o	LINK
210	2-114-405-01	o	HOLDER, LED
211	3-179-110-01	s	COVER, DIAL
212	3-179-185-01	o	DIAL, SERCH
213	3-179-186-01	o	PLATE, CONNECTOR
214	3-179-224-01	o	PAD, KEY
215	3-180-014-01	o	PLATE, SHIELD
216	3-180-015-01	o	SHEET, INSULATED
217	3-701-510-00	s	SET SCREW, DOUBLE POINT 4X4
218	4-605-532-11	s	LINK
219	4-605-534-02	s	BOSS (UPPER), LINK
220	4-605-535-01	s	BOSS (LOWER), LINK
221	4-605-537-01	s	SOLENOID, GUIDE
222	4-605-538-01	s	CASE, GUIDE
223	8-719-820-59	s	DIODE 1S1588
224	8-719-921-01	s	DIODE EBR5534S
225	8-719-955-04	s	DIODE PY5504S-1

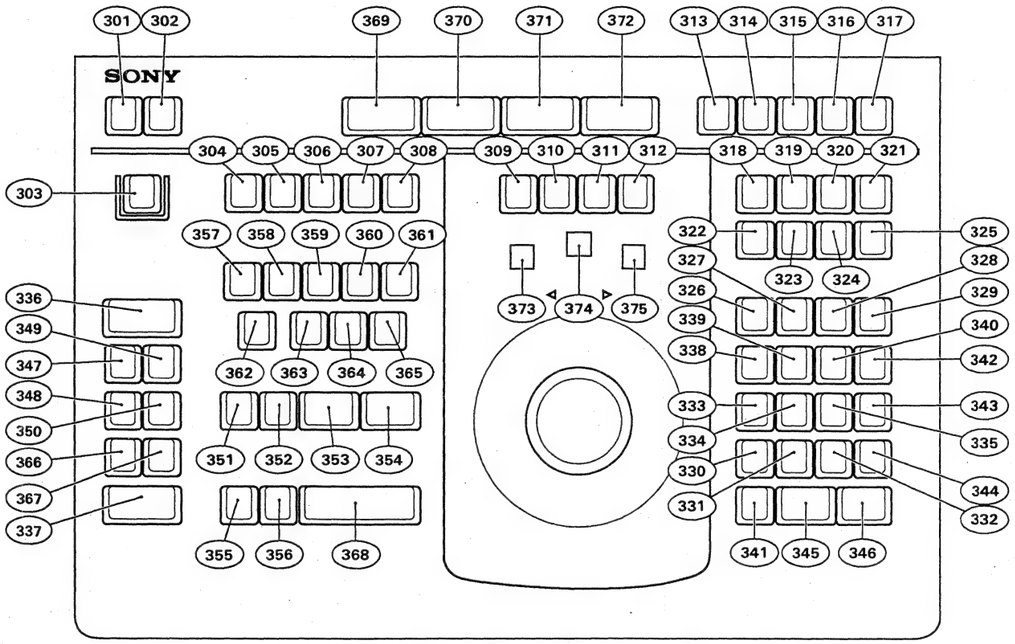
BKE-2010 Key board



BKE-2010 KEY TOP

No.	Part No.	SP	Description
301	3-179-173-01	o	KEY TOP (G1-1)
302	3-179-173-11	o	KEY TOP (G1-1)
303	3-179-173-21	o	KEY TOP (G1-1)
304	3-179-173-31	o	KEY TOP (G1-1)
305	3-179-173-41	o	KEY TOP (G1-1)
306	3-179-173-51	o	KEY TOP (G1-1)
307	3-179-173-61	o	KEY TOP (G1-1)
308	3-179-173-71	o	KEY TOP (G1-1)
309	3-179-174-01	o	KEY TOP (G1-2)
310	3-179-174-11	o	KEY TOP (G1-2)
311	3-179-174-21	o	KEY TOP (G1-2)
312	3-179-174-31	o	KEY TOP (G1-2)
313	3-179-174-41	o	KEY TOP (G1-2)
314	3-179-174-51	o	KEY TOP (G1-2)
315	3-179-174-61	o	KEY TOP (G1-2)
316	3-179-174-71	o	KEY TOP (G1-2)
317	3-179-174-81	o	KEY TOP (G1-2)
318	3-179-175-01	o	KEY TOP (G1-3)
319	3-179-175-11	o	KEY TOP (G1-3)
320	3-179-175-21	o	KEY TOP (G1-3)
321	3-179-175-31	o	KEY TOP (G1-3)
322	3-179-175-41	o	KEY TOP (G1-3)
323	3-179-175-51	o	KEY TOP (G1-3)
324	3-179-175-61	o	KEY TOP (G1-3)
325	3-179-175-71	o	KEY TOP (G1-3)
326	3-179-176-01	o	KEY TOP (G1-4)
327	3-179-176-11	o	KEY TOP (G1-4)
328	3-179-176-21	o	KEY TOP (G1-4)
329	3-179-176-31	o	KEY TOP (G1-4)
330	3-179-176-41	o	KEY TOP (G1-4)
331	3-179-176-51	o	KEY TOP (G1-4)
332	3-179-176-61	o	KEY TOP (G1-4)
333	3-179-176-71	o	KEY TOP (G1-4)
334	3-179-176-81	o	KEY TOP (G1-4)
335	3-179-176-91	o	KEY TOP (G1-4)
336	3-179-177-01	o	KEY TOP (G2-1)
337	3-179-178-01	o	KEY TOP (G2-2)
338	3-179-179-01	o	KEY TOP (G1-5)
339	3-179-179-11	o	KEY TOP (G1-5)
340	3-179-179-21	o	KEY TOP (G1-5)
341	3-179-179-31	o	KEY TOP (G1-5)
342	3-179-179-41	o	KEY TOP (G1-5)
343	3-179-179-51	o	KEY TOP (G1-5)
344	3-179-179-61	o	KEY TOP (G1-5)
345	3-179-180-01	o	KEY TOP (G1.5-1)
346	3-179-180-11	o	KEY TOP (G1.5-1)
347	3-179-181-01	o	KEY TOP (G1-6)
348	3-179-181-11	o	KEY TOP (G1-6)
349	3-179-181-21	o	KEY TOP (G1-6)
350	3-179-181-31	o	KEY TOP (G1-6)
351	3-179-182-01	o	KEY TOP (G1-7)
352	3-179-182-11	o	KEY TOP (G1-7)
353	3-179-183-01	o	KEY TOP (G1.5-2)
354	3-179-183-11	o	KEY TOP (G1.5-2)
355	3-179-184-01	o	KEY TOP (G1-8)
356	3-179-184-11	o	KEY TOP (G1-8)
357	3-179-188-01	o	KEY TOP (G1LED-1)
358	3-179-188-11	o	KEY TOP (G1LED-1)
359	3-179-188-21	o	KEY TOP (G1LED-1)
360	3-179-188-31	o	KEY TOP (G1LED-1)
361	3-179-188-41	o	KEY TOP (G1LED-1)
362	3-179-188-51	o	KEY TOP (G1LED-1)
363	3-179-188-61	o	KEY TOP (G1LED-1)
364	3-179-188-71	o	KEY TOP (G1LED-1)
365	3-179-188-81	o	KEY TOP (G1LED-1)
366	3-179-189-01	o	KEY TOP (G1LED-2)
367	3-179-189-11	o	KEY TOP (G1LED-2)
368	3-179-191-01	o	KEY TOP (G3)
369	3-179-192-01	o	KEY TOP (G2-3)
370	3-179-192-11	o	KEY TOP (G2-3)
371	3-179-192-21	o	KEY TOP (G2-3)
372	3-179-192-31	o	KEY TOP (G2-3)
373	3-179-193-01	o	KEY TOP (SQUARE 4)
374	3-179-193-11	o	KEY TOP (SQUARE 4)
375	3-179-193-21	o	KEY TOP (SQUARE 4)

BKE-2010 Key top



5-3. ELECTRICAL PARTS LIST

CAPACITOR (MICA)

Part No.	SP	Description
1-107-210-00	s	MICA 22pF 5% 500V

RESISTOR (METAL)

Part No.	SP	Description
1-216-627-11	s	METAL, CHIP 100 1% 1/10W
1-216-644-11	s	METAL, CHIP 510 1% 1/10W
1-216-651-11	s	METAL, CHIP 1.0k 1% 1/10W
1-216-659-11	s	METAL, CHIP 2.2k 1% 1/10W
1-216-667-11	s	METAL, CHIP 4.7k 1% 1/10W
1-216-675-11	s	METAL, CHIP 10k 1% 1/10W
1-216-692-11	s	METAL, CHIP 51k 1% 1/10W

CF-46 BOARD used for BKE-2030

Ref. No. or Q'ty	Part No.	SP	Description
C1	1-126-412-11	s	ELECT, CHIP 220uF 20% 4V
C2	1-126-412-11	s	ELECT, CHIP 220uF 20% 4V
C3	1-126-396-11	s	ELECT, CHIP 47uF 20% 16V
C4	1-126-396-11	s	ELECT, CHIP 47uF 20% 16V
C5	1-126-401-11	s	ELECT, CHIP 1uF 20% 50V
C6	1-126-401-11	s	ELECT, CHIP 1uF 20% 50V
C7	1-126-394-11	s	ELECT, CHIP 10uF 20% 16V
C8	1-126-394-11	s	ELECT, CHIP 10uF 20% 16V
C9	1-126-396-11	s	ELECT, CHIP 47uF 20% 16V
C10	1-126-394-11	s	ELECT, CHIP 10uF 20% 16V
C11	1-126-394-11	s	ELECT, CHIP 10uF 20% 16V
C12	1-126-395-11	s	ELECT 22uF 20% 16V
C13	1-126-392-11	s	ELECT, CHIP 100uF 20% 6.3V
C14	1-126-392-11	s	ELECT, CHIP 100uF 20% 6.3V
C15	1-126-391-11	s	ELECT, CHIP 47uF 20% 6.3V
C16	1-126-394-11	s	ELECT, CHIP 10uF 20% 16V
C17	1-126-392-11	s	ELECT, CHIP 100uF 20% 6.3V
C18	1-126-392-11	s	ELECT, CHIP 100uF 20% 6.3V
C19	1-126-392-11	s	ELECT, CHIP 100uF 20% 6.3V
C20	1-126-394-11	s	ELECT, CHIP 10uF 20% 16V
C21	1-135-137-11	s	TANTALUM 6.8uF 20% 25V
C22	1-126-394-11	s	ELECT, CHIP 10uF 20% 16V
C23	1-162-901-11	s	CERAMIC 0.1uF 10% 50V
C24	1-162-901-11	s	CERAMIC 0.1uF 10% 50V
C25	1-126-397-11	s	ELECT, CHIP 33uF 20% 25V
C26	1-126-397-11	s	ELECT, CHIP 33uF 20% 25V
C27	1-126-392-11	s	ELECT, CHIP 100uF 20% 6.3V
C28	1-107-209-00	s	MICA 20PF 5% 500V
C29	1-163-809-11	s	CERAMIC, CHIP 0.047uF 10% 25V
C30	1-163-117-00	s	CERAMIC, CHIP 100PF 5% 50V
C31	1-163-809-11	s	CERAMIC, CHIP 0.047uF 10% 25V
C32	1-163-037-11	s	CERAMIC, CHIP 0.022uF 10% 25V
C33	1-109-621-00	s	MICA 220PF 1% 500V
C34	1-107-202-00	s	MICA 10PF 5% 500V
C35	1-163-117-00	s	CERAMIC, CHIP 100PF 5% 50V
C36	1-163-133-00	s	CERAMIC, CHIP 470PF 5% 50V
C37	1-163-133-00	s	CERAMIC, CHIP 470PF 5% 50V
C38	1-162-901-11	s	CERAMIC 0.1uF 10% 50V
C39	1-162-901-11	s	CERAMIC 0.1uF 10% 50V
C40	1-162-901-11	s	CERAMIC 0.1uF 10% 50V
C41	1-162-901-11	s	CERAMIC 0.1uF 10% 50V
C42	1-163-275-11	s	CERAMIC, CHIP 0.001uF 5% 50V
C43	1-163-016-00	s	CERAMIC CHIP 0.0039uF 10% 50V
C44	1-164-232-11	s	CERAMIC 0.01uF 10% 100V
C45	1-163-037-11	s	CERAMIC, CHIP 0.022uF 10% 25V
C46	1-163-037-11	s	CERAMIC, CHIP 0.022uF 10% 25V
C47	1-109-621-00	s	MICA 220PF 1% 500V
C48	1-107-208-00	s	MICA 18PF 5% 500V
C49	1-107-163-00	s	MICA 47PF 5% 500V
C50	1-163-037-11	s	CERAMIC, CHIP 0.022uF 10% 25V
C51	1-163-133-00	s	CERAMIC, CHIP 470PF 5% 50V
C52	1-164-232-11	s	CERAMIC 0.01uF 10% 100V
C53	1-164-232-11	s	CERAMIC 0.01uF 10% 100V
C54	1-164-232-11	s	CERAMIC 0.01uF 10% 100V
C55	1-163-117-00	s	CERAMIC, CHIP 100PF 5% 50V
C56	1-164-232-11	s	CERAMIC 0.01uF 10% 100V
C57	1-164-232-11	s	CERAMIC 0.01uF 10% 100V
C58	1-164-232-11	s	CERAMIC 0.01uF 10% 100V

NOTE: Please see page 5-9 for tha parts that are not listed in the parts list.

(CF-46 BOARD used for BKE-2030)

Ref. No. or Q'ty	Part No.	SP	Description
C59	1-164-232-11	s	CERAMIC 0.01uF 10% 100V
C60	1-164-232-11	s	CERAMIC 0.01uF 10% 100V
C61	1-164-232-11	s	CERAMIC 0.01uF 10% 100V
C62	1-164-232-11	s	CERAMIC 0.01uF 10% 100V
C63	1-164-232-11	s	CERAMIC 0.01uF 10% 100V
C64	1-163-016-00	s	CERAMIC CHIP 0.0039uF 10% 50V
CN102	1-506-481-11	s	CONNECTOR, 2P, MALE
CN103	1-506-487-11	s	CONNECTOR 8P, MALE
CN104	1-506-487-11	s	CONNECTOR 8P, MALE
COP2	1-562-579-11	s	PLUG, SHORTING
COP4	1-562-579-11	s	PLUG, SHORTING
COP6	1-562-579-11	s	PLUG, SHORTING
COP8	1-562-579-11	s	PLUG, SHORTING
COR1	1-564-952-21	s	PIN, DIL 16P
COR2	1-564-952-21	s	PIN, DIL 16P
COR3	1-564-952-21	s	PIN, DIL 16P
COR4	1-564-952-21	s	PIN, DIL 16P
COR5	1-564-952-21	s	PIN, DIL 16P
COR6	1-564-952-21	s	PIN, DIL 16P
COR7	1-564-952-21	s	PIN, DIL 16P
COR8	1-564-952-21	s	PIN, DIL 16P
D1	8-719-812-43	s	LED TLG124A, GRN
D2	8-719-800-99	s	LED TLG223, GREEN
D3	8-719-911-19	s	DIODE 1SS119
D4	8-719-911-19	s	DIODE 1SS119
D5	8-719-101-98	s	DIODE 1SS97-0
D6	8-719-109-97	s	DIODE RD6.8EB1
D7	8-719-903-27	s	DIODE 1SS168
D8	8-719-903-27	s	DIODE 1SS168
D9	8-719-109-97	s	DIODE RD6.8EB1
DL1	8-749-922-07	s	IC DS1005-100
IC1	8-759-906-53	s	IC TL062CPS
IC2	8-759-978-96	s	IC SN75207BNS
IC3	8-749-900-63	s	IC BX365AL
IC4	8-759-908-17	s	IC TL082CPS
IC5	8-759-239-58	s	IC TC74HC221AF
IC6	8-759-908-17	s	IC TL082CPS
IC7	8-759-941-27	s	IC MB4002PF
IC8	8-759-925-90	s	IC SN74HC74NS
IC9	8-759-925-80	s	IC SN74HC14NS
IC10	8-752-335-47	s	IC CXD1216M
IC11	8-752-332-67	s	IC CXD1217M
IC12	8-759-906-53	s	IC TL062CPS
IC13	8-759-926-02	s	IC SN74HC112NS
IC14	8-759-239-23	s	IC TC74HC86AF
IC15	8-759-902-88	s	IC SN74LS123NS
IC16	8-759-906-53	s	IC TL062CPS
IC17	8-759-926-21	s	IC SN74HC161NS
IC18	8-759-926-77	s	IC SN74HC541NS
IC19	8-759-925-90	s	IC SN74HC74NS
IC20	8-759-929-77	s	IC SN74LS03NS
L1	1-408-425-00	s	INDUCTOR 220uH
L2	1-408-425-00	s	INDUCTOR 220uH
L3	1-408-409-00	s	INDUCTOR 10uH
Q1	8-729-119-78	s	TRANSISTOR 2SC2785-HFE
Q2	8-729-105-73	s	TRANSISTOR 2SK523-L2

(CF-46 BOARD used for BKE-2030)

Ref. No. or Q'ty	Part No.	SP	Description
Q3	8-729-105-73	s	TRANSISTOR 2SK523-L2
Q4	8-729-105-73	s	TRANSISTOR 2SK523-L2
Q5	8-729-119-78	s	TRANSISTOR 2SC2785-HFE
Q6	8-729-105-73	s	TRANSISTOR 2SK523-L2
R4	1-216-669-11	s	METAL, CHIP 5.6K 0.5% 1/10W
R5	1-218-776-11	s	METAL, CHIP 1M 0.5% 1/10W
R6	1-216-693-11	s	METAL, CHIP 56K 0.5% 1/10W
R7	1-216-691-11	s	METAL, CHIP 47K 0.5% 1/10W
R8	1-216-624-11	s	METAL, CHIP 75 0.5% 1/10W
R9	1-216-697-11	s	METAL, CHIP 82K 0.5% 1/10W
R12	1-216-643-11	s	METAL, CHIP 470 0.5% 1/10W
R13	1-216-699-11	s	METAL, CHIP 100K 0.5% 1/10W
R14	1-216-620-11	s	METAL, CHIP 51 0.5% 1/10W
R15	1-216-645-11	s	METAL, CHIP 560 0.5% 1/10W
R16	1-216-645-11	s	METAL, CHIP 560 0.5% 1/10W
R17	1-216-699-11	s	METAL, CHIP 100K 0.5% 1/10W
R24	1-216-679-11	s	METAL, CHIP 15K 0.5% 1/10W
R25	1-216-683-11	s	METAL, CHIP 22K 0.5% 1/10W
R26	1-216-679-11	s	METAL, CHIP 15K 0.5% 1/10W
R27	1-216-685-11	s	METAL, CHIP 27K 0.5% 1/10W
R28	1-216-645-11	s	METAL, CHIP 560 0.5% 1/10W
R29	1-216-699-11	s	METAL, CHIP 100K 0.5% 1/10W
R30	1-216-685-11	s	METAL, CHIP 27K 0.5% 1/10W
R32	1-216-624-11	s	METAL, CHIP 75 0.5% 1/10W
R34	1-216-624-11	s	METAL, CHIP 75 0.5% 1/10W
R38	1-216-681-11	s	METAL, CHIP 18K 0.5% 1/10W
R42	1-216-669-11	s	METAL, CHIP 5.6K 0.5% 1/10W
R45	1-216-685-11	s	METAL, CHIP 27K 0.5% 1/10W
R49	1-216-683-11	s	METAL, CHIP 22K 0.5% 1/10W
R52	1-216-695-11	s	METAL, CHIP 68K 0.5% 1/10W
R53	1-216-683-11	s	METAL, CHIP 22K 0.5% 1/10W
R55	1-216-683-11	s	METAL, CHIP 22K 0.5% 1/10W
R56	1-218-776-11	s	METAL, CHIP 1M 0.5% 1/10W
R57	1-216-660-11	s	METAL, CHIP 2.4K 0.5% 1/10W
R62	1-216-674-11	s	METAL, CHIP 9.1K 0.5% 1/10W
R63	1-216-671-11	s	METAL, CHIP 6.8K 0.5% 1/10W
R64	1-216-674-11	s	METAL, CHIP 9.1K 0.5% 1/10W
R65	1-216-671-11	s	METAL, CHIP 6.8K 0.5% 1/10W
R70	1-216-684-11	s	METAL, CHIP 24K 0.5% 1/10W
R71	1-216-682-11	s	METAL, CHIP 20K 0.5% 1/10W
R73	1-216-683-11	s	METAL, CHIP 22K 0.5% 1/10W
RB1	1-231-411-00	s	RESISTOR BLOCK 100Kx8
RV1	1-237-514-21	s	RES, ADJ METAL 500
RV2	1-237-515-21	s	RES, ADJ METAL 1K
RV3	1-237-504-21	s	RES, ADJ METAL 20K
S1	1-553-906-00	s	SWITCH, SLIDE
X1	1-577-089-11	s	VCO, CRYSTAL 14.318180MHz

CF-47 BOARD used for BKE-2031

Ref. No. or Q'ty	Part No.	SP	Description
C16	1-126-401-11	s	ELECT, CHIP 1uF 20% 50V
C17	1-163-133-00	s	CERAMIC, CHIP 470PF 5% 50V
C18	1-126-392-11	s	ELECT, CHIP 100uF 20% 6.3V
C19	1-126-394-11	s	ELECT, CHIP 10uF 20% 16V
C20	1-162-901-11	s	CERAMIC 0.1uF 10% 50V
C21	1-126-394-11	s	ELECT, CHIP 10uF 20% 16V
C22	1-107-163-00	s	MICA 47PF 5% 500V
C23	1-163-263-11	s	CERAMIC, CHIP 330PF 5% 50V
C29	1-162-901-11	s	CERAMIC 0.1uF 10% 50V
C30	1-162-901-11	s	CERAMIC 0.1uF 10% 50V
C31	1-126-394-11	s	ELECT, CHIP 10uF 20% 16V
C32	1-163-037-11	s	CERAMIC, CHIP 0.022uF 10% 25V
C33	1-163-037-11	s	CERAMIC, CHIP 0.022uF 10% 25V
C34	1-126-401-11	s	ELECT, CHIP 1uF 20% 50V
C35	1-126-401-11	s	ELECT, CHIP 1uF 20% 50V
C36	1-163-251-11	s	CERAMIC, CHIP 100PF 5% 50V
C37	1-126-394-11	s	ELECT, CHIP 10uF 20% 16V
C38	1-109-621-00	s	MICA 220PF 1% 500V
C39	1-163-275-11	s	CERAMIC, CHIP 0.001uF 5% 50V
C40	1-164-232-11	s	CERAMIC 0.01uF 10% 100V
C41	1-164-232-11	s	CERAMIC 0.01uF 10% 100V
C42	1-126-401-11	s	ELECT, CHIP 1uF 20% 50V
C43	1-163-133-00	s	CERAMIC, CHIP 470PF 5% 50V
C44	1-163-133-00	s	CERAMIC, CHIP 470PF 5% 50V
C45	1-163-037-11	s	CERAMIC, CHIP 0.022uF 10% 25V
C46	1-126-394-11	s	ELECT, CHIP 10uF 20% 16V
C47	1-126-396-11	s	ELECT, CHIP 47uF 20% 16V
C48	1-126-401-11	s	ELECT, CHIP 1uF 20% 50V
C49	1-126-392-11	s	ELECT, CHIP 100uF 20% 6.3V
C50	1-163-137-00	s	CERAMIC, CHIP 680PF 5% 50V
C51	1-163-251-11	s	CERAMIC, CHIP 100PF 5% 50V
C52	1-163-809-11	s	CERAMIC, CHIP 0.047uF 10% 25V
C53	1-126-396-11	s	ELECT, CHIP 47uF 20% 16V
C54	1-126-396-11	s	ELECT, CHIP 47uF 20% 16V
C56	1-163-037-11	s	CERAMIC, CHIP 0.022uF 10% 25V
C57	1-126-394-11	s	ELECT, CHIP 10uF 20% 16V
C58	1-164-232-11	s	CERAMIC 0.01uF 10% 100V
C59	1-126-401-11	s	ELECT, CHIP 1uF 20% 50V
C60	1-163-809-11	s	CERAMIC, CHIP 0.047uF 10% 25V
C61	1-107-209-00	s	MICA 20PF 5% 500V
C62	1-126-392-11	s	ELECT, CHIP 100uF 20% 6.3V
C63	1-163-037-11	s	CERAMIC, CHIP 0.022uF 10% 25V
C64	1-126-412-11	s	ELECT, CHIP 220uF 20% 4V
C65	1-126-412-11	s	ELECT, CHIP 220uF 20% 4V
C66	1-107-208-00	s	MICA 18PF 5% 500V
C100	1-126-397-11	s	ELECT, CHIP 33uF 20% 25V
C101	1-164-232-11	s	CERAMIC 0.01uF 10% 100V
C102	1-126-397-11	s	ELECT, CHIP 33uF 20% 25V
C103	1-164-232-11	s	CERAMIC 0.01uF 10% 100V
C104	1-126-392-11	s	ELECT, CHIP 100uF 20% 6.3V
C105	1-164-232-11	s	CERAMIC 0.01uF 10% 100V
C110	1-107-202-00	s	MICA 10PF 5% 500V
CN102	1-506-481-11	s	CONNECTOR, 2P, MALE
CN103	1-506-487-11	s	CONNECTOR 8P, MALE
CN104	1-506-487-11	s	CONNECTOR 8P, MALE
CP3	1-231-411-00	s	RESISTOR BLOCK 100Kx8

NOTE: Please see page 5-9 for tha parts that are not listed in the parts list.

(CF-47 BOARD used for BKE-2031)

Ref. No. or Q'ty	Part No.	SP	Description
D1	8-719-800-99	s	LED TLG223, GREEN
D2	8-719-812-43	s	LED TLG124A, GRN
D3	8-719-911-19	s	DIODE 1SS119
D4	8-719-911-19	s	DIODE 1SS119
D5	8-719-911-19	s	DIODE 1SS119
D7	8-719-109-97	s	DIODE RD6.8EB1
DL1	8-749-922-07	s	IC DS1005-100
FL1	1-527-497-00	s	FILTER, CERAMIC 4.55MHz
IC5	8-759-926-77	s	IC SN74HC541NS
IC7	8-759-925-79	s	IC SN74HC11ANS
IC8	8-759-929-77	s	IC SN74LS03NS
IC10	8-759-907-81	s	IC SN74LS221NS
IC11	8-759-926-21	s	IC SN74HC161NS
IC12	8-759-926-50	s	IC SN74HC251ANS
IC13	8-759-902-88	s	IC SN74LS123NS
IC15	8-759-925-90	s	IC SN74HC74NS
IC16	8-759-925-74	s	IC TC74HC04NS
IC17	8-759-925-90	s	IC SN74HC74NS
IC18	8-759-906-53	s	IC TL062CPS
IC19	8-759-239-23	s	IC TC74HC86AF
IC20	8-759-925-90	s	IC SN74HC74NS
IC21	8-759-925-90	s	IC SN74HC74NS
IC22	8-759-925-90	s	IC SN74HC74NS
IC23	8-759-978-96	s	IC SN75207BNS
IC24	8-759-978-96	s	IC SN75207BNS
IC25	8-752-332-67	s	IC CXD1217M
IC26	8-759-906-53	s	IC TL062CPS
IC27	8-759-908-17	s	IC TL082CPS
IC28	8-759-906-53	s	IC TL062CPS
IC29	8-759-906-53	s	IC TL062CPS
IC30	8-759-902-88	s	IC SN74LS123NS
IC31	8-752-335-47	s	IC CXD1216M
IC32	8-749-900-63	s	IC BX365AL
L2	1-408-425-00	s	INDUCTOR 220uH
L3	1-408-425-00	s	INDUCTOR 220uH
L4	1-408-409-00	s	INDUCTOR 10uH
L5	1-408-425-00	s	INDUCTOR 220uH
Q1	8-729-105-73	s	TRANSISTOR 2SK523-L2
Q2	8-729-105-73	s	TRANSISTOR 2SK523-L2
Q3	8-729-105-73	s	TRANSISTOR 2SK523-L2
Q4	8-729-119-78	s	TRANSISTOR 2SC2785-HFE
Q5	8-729-119-78	s	TRANSISTOR 2SC2785-HFE
R6	1-216-649-11	s	METAL, CHIP 820 0.5% 1/10W
R7	1-216-649-11	s	METAL, CHIP 820 0.5% 1/10W
R8	1-216-691-11	s	METAL, CHIP 47K 0.5% 1/10W
R9	1-216-115-00	s	METAL, CHIP 560K 5% 1/10W
R10	1-216-683-11	s	METAL, CHIP 22K 0.5% 1/10W
R16	1-216-684-11	s	METAL, CHIP 24K 0.5% 1/10W
R17	1-216-682-11	s	METAL, CHIP 20K 0.5% 1/10W
R23	1-216-653-11	s	METAL, CHIP 1.2K 0.5% 1/10W
R24	1-216-663-11	s	METAL, CHIP 3.3K 0.5% 1/10W
R28	1-216-645-11	s	METAL, CHIP 560 0.5% 1/10W
R29	1-216-691-11	s	METAL, CHIP 47K 0.5% 1/10W
R34	1-216-640-11	s	METAL, CHIP 360 0.5% 1/10W
R36	1-216-105-00	s	METAL, CHIP 220K 5% 1/10W
R43	1-216-645-11	s	METAL, CHIP 560 0.5% 1/10W
R44	1-216-685-11	s	METAL, CHIP 27K 0.5% 1/10W

NOTE: Please see page 5-9 for tha parts that are not listed in the parts list.

(CF-47 BOARD used for BKE-2031)

Ref. No. or Q'ty	Part No.	SP	Description
R45	1-216-645-11	s	METAL, CHIP 560 0.5% 1/10W
R46	1-216-699-11	s	METAL, CHIP 100K 0.5% 1/10W
R48	1-216-683-11	s	METAL, CHIP 22K 0.5% 1/10W
R49	1-216-683-11	s	METAL, CHIP 22K 0.5% 1/10W
R51	1-218-776-11	s	METAL, CHIP 1M 0.5% 1/10W
R54	1-218-776-11	s	METAL, CHIP 1M 0.5% 1/10W
R55	1-216-687-11	s	METAL, CHIP 33K 0.5% 1/10W
R56	1-216-679-11	s	METAL, CHIP 15K 0.5% 1/10W
R58	1-216-685-11	s	METAL, CHIP 27K 0.5% 1/10W
R59	1-216-699-11	s	METAL, CHIP 100K 0.5% 1/10W
R60	1-216-683-11	s	METAL, CHIP 22K 0.5% 1/10W
R61	1-216-679-11	s	METAL, CHIP 15K 0.5% 1/10W
R62	1-216-695-11	s	METAL, CHIP 68K 0.5% 1/10W
R65	1-216-661-11	s	METAL, CHIP 2.7K 0.5% 1/10W
R66	1-216-697-11	s	METAL, CHIP 82K 0.5% 1/10W
R67	1-216-683-11	s	METAL, CHIP 22K 0.5% 1/10W
R73	1-216-624-11	s	METAL, CHIP 75 0.5% 1/10W
R74	1-216-683-11	s	METAL, CHIP 22K 0.5% 1/10W
R76	1-216-683-11	s	METAL, CHIP 22K 0.5% 1/10W
R80	1-216-693-11	s	METAL, CHIP 56K 0.5% 1/10W
R81	1-216-691-11	s	METAL, CHIP 47K 0.5% 1/10W
R82	1-216-624-11	s	METAL, CHIP 75 0.5% 1/10W
R83	1-216-669-11	s	METAL, CHIP 5.6K 0.5% 1/10W
R85	1-216-624-11	s	METAL, CHIP 75 0.5% 1/10W
R90	1-216-671-11	s	METAL, CHIP 6.8K 0.5% 1/10W
R91	1-216-674-11	s	METAL, CHIP 9.1K 0.5% 1/10W
R92	1-216-674-11	s	METAL, CHIP 9.1K 0.5% 1/10W
R93	1-216-671-11	s	METAL, CHIP 6.8K 0.5% 1/10W
R100	1-216-679-11	s	METAL, CHIP 15K 0.5% 1/10W
R101	1-218-776-11	s	METAL, CHIP 1M 0.5% 1/10W
R107	1-216-697-11	s	METAL, CHIP 82K 0.5% 1/10W
R108	1-216-697-11	s	METAL, CHIP 82K 0.5% 1/10W
RV1	1-237-504-21	s	RES, ADJ METAL 20K
RV2	1-237-514-21	s	RES, ADJ METAL 500
RV3	1-237-518-21	s	RES, ADJ METAL 10K
RV4	1-237-519-21	s	RES, ADJ METAL 20K
RV5	1-237-515-21	s	RES, ADJ METAL 1K
S1	1-553-906-00	s	SWITCH, SLIDE
S3	1-554-029-00	s	SWITCH, SLIDE
X1	1-577-295-11	s	VCO, CRYSTAL 17.734475MHz
X2	1-577-294-11	s	VCO, CRYSTAL 14.187500MHz

CN-781 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	A-8267-085-A	o	CN-781 ASSY
2pcs	3-172-089-01	o	HANDLE
1pc	3-179-253-02	o	PANEL (1), CONNECTOR
10pcs	7-682-903-11	s	SCREW +PWH 3X6
4pcs	7-685-546-14	s	SCREW +BTP 3X8 TYPE2 N-S
CN1	1-566-318-11	s	CONNECTOR, D-SUB 9P, MALE
CN2	1-566-318-11	s	CONNECTOR, D-SUB 9P, MALE
CN3	1-563-771-11	s	CONNECTOR, D-SUB 15P, FEMALE
CN4	1-563-770-11	s	CONNECTOR, D-SUB 9P, FEMALE
CN5	1-691-431-21	s	CONNECTOR, 3-BNC, FEMALE
CN781	1-506-747-11	s	CONNECTOR, DIN 64P, MALE
L1	1-410-802-11	s	INDUCTOR, CHIP 0.039uH
L2	1-410-802-11	s	INDUCTOR, CHIP 0.039uH
L3	1-410-802-11	s	INDUCTOR, CHIP 0.039uH
PS1	⚠1-532-686-00	s	LINK, IC 2.7A
R1	1-215-394-00	s	METAL 75 1% 1/6W
S1	1-570-707-11	s	SWITCH, SLIDE

CN-786 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	A-8267-086-A	o	CN-786 ASSY
2pcs	3-172-089-01	o	HANDLE
1pc	3-179-254-02	o	PANEL (2), CONNECTOR
12pcs	7-682-903-11	s	SCREW +PWH 3X6
14pcs	7-685-546-14	s	SCREW +BTP 3X8 TYPE2 N-S
CN1	1-563-770-11	s	CONNECTOR, D-SUB 9P, FEMALE
CN2	1-563-770-11	s	CONNECTOR, D-SUB 9P, FEMALE
CN3	1-563-771-11	s	CONNECTOR, D-SUB 15P, FEMALE
CN4	1-563-772-11	o	CONNECTOR, D-SUB 25P, FEMALE
CN5	1-563-772-11	o	CONNECTOR, D-SUB 25P, FEMALE
CN786	1-506-747-11	s	CONNECTOR, DIN 64P, MALE
S1	1-554-029-00	s	SWITCH, SLIDE
S2	1-554-029-00	s	SWITCH, SLIDE

CN-787 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	A-8267-087-A	o	CN-787 ASSY
2pcs	3-172-089-01	o	HANDLE
1pc	3-179-255-02	o	PANEL (3, 4), CONNECTOR
14pcs	7-682-903-11	s	SCREW +PWH 3X6
2pcs	7-685-546-14	s	SCREW +BTP 3X8 TYPE2 N-S
CN1	1-506-482-11	s	CONNECTOR 3P, MALE
CN1	1-563-770-11	s	CONNECTOR, D-SUB 9P, FEMALE
CN2	1-563-770-11	s	CONNECTOR, D-SUB 9P, FEMALE
CN3	1-563-770-11	s	CONNECTOR, D-SUB 9P, FEMALE
CN4	1-563-770-11	s	CONNECTOR, D-SUB 9P, FEMALE
CN5	1-563-770-11	s	CONNECTOR, D-SUB 9P, FEMALE
CN6	1-563-770-11	s	CONNECTOR, D-SUB 9P, FEMALE
CN787	1-506-747-11	s	CONNECTOR, DIN 64P, MALE

CN-788 BOARD used for BKE-2020

Ref. No. or Q'ty	Part No.	SP	Description
1pc	A-8267-078-A	o	CN-788 ASSY
2pcs	3-172-089-01	o	HANDLE
1pc	3-179-252-12	o	PANEL (3, 4), CONNECTOR
14pcs	7-682-903-11	s	SCREW +PWH 3X6
2pcs	7-685-546-14	s	SCREW +BTP 3X8 TYPE2 N-S
CN1	1-563-323-11	s	CONNECTOR, D-SUB 9P, FEMALE
CN2	1-563-323-11	s	CONNECTOR, D-SUB 9P, FEMALE
CN3	1-563-323-11	s	CONNECTOR, D-SUB 9P, FEMALE
CN4	1-563-323-11	s	CONNECTOR, D-SUB 9P, FEMALE
CN5	1-563-323-11	s	CONNECTOR, D-SUB 9P, FEMALE
CN6	1-563-323-11	s	CONNECTOR, D-SUB 9P, FEMALE
CN788	1-506-747-11	s	CONNECTOR, DIN 64P, MALE

NOTE: Please see page 5-9 for tha parts that are not listed in the parts list.

CPU-132 BOARD used for BKE-2010

Ref. No. or Q'ty	Part No.	SP	Description
1pc	A-8271-803-A	o	MOUNTED CIRCUIT BOARD, CPU-132
2pcs	7-682-903-11	s	SCREW +PWH 3X6
1pc	3-180-014-01	o	PLATE, SHIELD
1pc	3-180-015-01	o	SHEET, INSULATED
BZ1	1-529-025-00	s	BUZZER
C1	1-107-077-00	s	MICA 47PF 5% 50V
C2	1-107-077-00	s	MICA 47PF 5% 50V
C3	1-124-903-11	s	ELECT 1uF 20% 50V
C4	1-161-494-00	s	CERAMIC 0.022uF 25V
C5	1-124-122-11	s	ELECT 100uF 20% 50V
C6	1-126-969-11	s	ELECT 220uF 20% 50V
C7	1-161-494-00	s	CERAMIC 0.022uF 25V
C8	1-161-494-00	s	CERAMIC 0.022uF 25V
C9	1-124-915-11	s	ELECT 10uF 20% 63V
C10	1-161-379-00	s	CERAMIC 0.01uF 20% 25V
C12	1-124-122-11	s	ELECT 100uF 20% 50V
C13	1-161-379-00	s	CERAMIC 0.01uF 20% 25V
C14	1-162-209-31	s	CERAMIC 27PF 5% 50V
C101	1-161-494-00	s	CERAMIC 0.022uF 25V
C102	1-161-494-00	s	CERAMIC 0.022uF 25V
C103	1-161-494-00	s	CERAMIC 0.022uF 25V
C104	1-161-494-00	s	CERAMIC 0.022uF 25V
C105	1-161-494-00	s	CERAMIC 0.022uF 25V
C106	1-161-494-00	s	CERAMIC 0.022uF 25V
C107	1-161-494-00	s	CERAMIC 0.022uF 25V
C108	1-161-494-00	s	CERAMIC 0.022uF 25V
C109	1-161-494-00	s	CERAMIC 0.022uF 25V
CN1	1-566-319-21	s	CONNECTOR, D-SUB 15P, MALE
CN2	1-564-391-11	o	HEADDER 40P, MALE
CN3	1-506-487-11	s	CONNECTOR 8P, MALE
CNI1	1-540-069-11	s	SOCKET, IC (IC113) 84P
DD1	1-464-156-00	s	CONVERTER, DC-DC CD-02
FB1	1-535-180-00	s	BEAD, FERRITE
FB2	1-535-180-00	s	BEAD, FERRITE
FB3	1-535-180-00	s	BEAD, FERRITE
FB4	1-535-180-00	s	BEAD, FERRITE
IC1	--PENDING---	s	IC HD647180X0CP6, PROM, BLANK
IC2	8-759-910-43	s	IC CX23028
IC3	8-759-995-76	s	IC PST529C
IC4	8-759-008-57	s	IC MC34051P
IC5	8-759-916-29	s	IC SN74HC74N
IC6	8-759-045-38	s	IC MC14538BCP
IC7	8-759-630-07	s	IC M54513P
IC8	8-759-630-07	s	IC M54513P
IC9	8-759-630-07	s	IC M54513P
IC10	8-759-630-07	s	IC M54513P
IC11	8-759-007-09	s	IC MC74HC540N
IC12	8-759-240-49	s	IC TC4049BP
IC13	8-759-240-49	s	IC TC4049BP
IC14	8-759-630-07	s	IC M54513P
IC15	8-759-203-05	s	IC TC74HC193P
L1	1-421-442-00	s	COIL, CHOKE
Q1	8-729-140-96	s	TRANSISTOR 2SD774-4
Q2	8-729-119-78	s	TRANSISTOR 2SC2785-HFE

(CPU-132 BOARD used for BKE-2010)

Ref. No. or Q'ty	Part No.	SP	Description
R1	⚠1-215-906-11	s	METAL 15 5% 3W
R2	1-247-895-00	s	CARBON 470K 5% 1/4W
R3	1-249-429-11	s	CARBON 10K 5% 1/4W
R4	1-249-425-11	s	CARBON 4.7K 5% 1/4W
R5	1-249-429-11	s	CARBON 10K 5% 1/4W
R6	1-249-429-11	s	CARBON 10K 5% 1/4W
R7	1-249-429-11	s	CARBON 10K 5% 1/4W
R8	1-249-429-11	s	CARBON 10K 5% 1/4W
R9	1-249-425-11	s	CARBON 4.7K 5% 1/4W
R10	1-249-413-11	s	CARBON 470 5% 1/4W
R11	1-249-417-11	s	CARBON 1K 5% 1/4W
R12	1-249-429-11	s	CARBON 10K 5% 1/4W
R13	1-249-417-11	s	CARBON 1K 5% 1/4W
R14	1-249-429-11	s	CARBON 10K 5% 1/4W
R15	1-249-417-11	s	CARBON 1K 5% 1/4W
R18	1-249-428-11	s	CARBON 8.2K 5% 1/4W
R19	1-249-421-11	s	CARBON 2.2K 5% 1/4W
R20	1-249-421-11	s	CARBON 2.2K 5% 1/4W
R21	1-249-421-11	s	CARBON 2.2K 5% 1/4W
R22	1-249-421-11	s	CARBON 2.2K 5% 1/4W
R23	1-249-421-11	s	CARBON 2.2K 5% 1/4W
R24	1-249-421-11	s	CARBON 2.2K 5% 1/4W
R25	1-249-421-11	s	CARBON 2.2K 5% 1/4W
R26	1-249-421-11	s	CARBON 2.2K 5% 1/4W
R27	1-249-421-11	s	CARBON 2.2K 5% 1/4W
R28	1-249-421-11	s	CARBON 2.2K 5% 1/4W
R29	1-249-421-11	s	CARBON 2.2K 5% 1/4W
R30	1-249-420-11	s	CARBON 1.8K 5% 1/4W
R31	1-249-420-11	s	CARBON 1.8K 5% 1/4W
R32	1-249-420-11	s	CARBON 1.8K 5% 1/4W
R33	1-249-421-11	s	CARBON 2.2K 5% 1/4W
R34	1-249-421-11	s	CARBON 2.2K 5% 1/4W
R35	1-249-421-11	s	CARBON 2.2K 5% 1/4W
R36	1-249-421-11	s	CARBON 2.2K 5% 1/4W
R37	1-249-421-11	s	CARBON 2.2K 5% 1/4W
R38	1-249-421-11	s	CARBON 2.2K 5% 1/4W
R39	1-249-421-11	s	CARBON 2.2K 5% 1/4W
R40	1-249-421-11	s	CARBON 2.2K 5% 1/4W
R41	1-249-421-11	s	CARBON 2.2K 5% 1/4W
R42	1-249-421-11	s	CARBON 2.2K 5% 1/4W
R43	1-249-425-11	s	CARBON 4.7K 5% 1/4W
R44	1-249-420-11	s	CARBON 1.8K 5% 1/4W
R45	1-249-420-11	s	CARBON 1.8K 5% 1/4W
R46	1-249-420-11	s	CARBON 1.8K 5% 1/4W
R47	1-249-420-11	s	CARBON 1.8K 5% 1/4W
R48	1-249-420-11	s	CARBON 1.8K 5% 1/4W
R49	1-249-420-11	s	CARBON 1.8K 5% 1/4W
R50	1-249-421-11	s	CARBON 2.2K 5% 1/4W
R51	1-249-421-11	s	CARBON 2.2K 5% 1/4W
R52	1-249-421-11	s	CARBON 2.2K 5% 1/4W
R53	1-249-421-11	s	CARBON 2.2K 5% 1/4W
R54	1-249-421-11	s	CARBON 2.2K 5% 1/4W
R55	1-249-429-11	s	CARBON 10K 5% 1/4W
R56	1-249-429-11	s	CARBON 10K 5% 1/4W
RB1	1-231-385-00	s	RESISTOR BLOCK 4.7Kx8
RB2	1-231-385-00	s	RESISTOR BLOCK 4.7Kx8
RB3	1-231-385-00	s	RESISTOR BLOCK 4.7Kx8
RB4	1-231-525-00	s	RESISTOR BLOCK 4.7Kx4

NOTE: Please see page 5-9 for tha parts that are not listed in the parts list.

(CPU-132 BOARD used for BKE-2010)

Ref. No. or Q'ty	Part No.	SP	Description
S1	1-570-472-11	s	SWITCH, KEYBOARD
S2	1-570-598-11	s	SWITCH, DIP 4-CKT
X1	1-567-812-11	s	RESONATOR, CERAMIC 12.288MHz

DET-11 BOARD used for BKE-2010

Ref. No. or Q'ty	Part No.	SP	Description
1pc	1-633-840-13	o	PRINTED CIRCUIT BOARD, DET-11
1pc	2-143-746-02	o	HOLDER, DME
1pc	7-685-533-14	s	SCREW +BTP 2.6X6 TYPE2 N-S
C1	1-163-011-11	s	CERAMIC 0.0015uF 10% 50V
C2	1-163-011-11	s	CERAMIC 0.0015uF 10% 50V
C3	1-126-154-11	s	ELECT 47uF 20% 6.3V
C4	1-163-011-11	s	CERAMIC 0.0015uF 10% 50V
CN1	1-506-487-11	s	CONNECTOR 8P, MALE
D1	8-719-200-02	s	DIODE 10E2
DME1	8-745-001-00	s	DM-211A
IC1	8-759-983-74	s	IC LM324NS
PC1	8-719-800-81	s	PHOTOINTERRUPTER TLP801A
R1	1-216-105-00	s	METAL, CHIP 220K 5% 1/10W
R2	1-216-057-00	s	METAL, CHIP 2.2K 5% 1/10W
R3	1-216-057-00	s	METAL, CHIP 2.2K 5% 1/10W
R5	1-216-097-00	s	METAL, CHIP 100K 5% 1/10W
R6	1-216-057-00	s	METAL, CHIP 2.2K 5% 1/10W
R7	1-216-057-00	s	METAL, CHIP 2.2K 5% 1/10W
R8	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R9	1-216-105-00	s	METAL, CHIP 220K 5% 1/10W
R10	1-216-057-00	s	METAL, CHIP 2.2K 5% 1/10W
R11	1-216-057-00	s	METAL, CHIP 2.2K 5% 1/10W
R13	1-216-097-00	s	METAL, CHIP 100K 5% 1/10W
R14	1-216-057-00	s	METAL, CHIP 2.2K 5% 1/10W
R15	1-216-057-00	s	METAL, CHIP 2.2K 5% 1/10W
R16	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R17	1-216-065-00	s	METAL, CHIP 4.7K 5% 1/10W
R18	1-216-033-00	s	METAL, CHIP 220 5% 1/10W
RV1	1-228-469-00	s	RES, ADJ METAL 200
RV2	1-228-469-00	s	RES, ADJ METAL 200

NOTE: Please see page 5-9 for tha parts that are not listed in the parts list.

IF-391 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	A-8271-805-A	o	MOUNTED CIRCUIT BOARD, IF-391
1pc	2-139-140-01	o	PLATE, SHIELD
1pc	2-182-909-01	o	LEVER, PC BOARD
1pc	2-280-622-01	o	SUPPORT (M3), HEXAGON
1pc	7-626-320-11	s	PIN, SPRING 3X8
1pc	7-682-545-04	s	SCREW +B 3X4
1pc	7-682-903-01	s	SCREW +PWH 3X5
4pcs	7-685-546-14	s	SCREW +BTP 3X8 TYPE2 N-S
C1	1-126-392-11	s	ELECT, CHIP 100uF 20% 6.3V
C2	1-164-232-11	s	CERAMIC 0.01uF 10% 100V
C3	1-164-232-11	s	CERAMIC 0.01uF 10% 100V
C4	1-126-397-11	s	ELECT, CHIP 33uF 20% 25V
C5	1-164-232-11	s	CERAMIC 0.01uF 10% 100V
C6	1-126-391-11	s	ELECT, CHIP 47uF 20% 6.3V
C7	1-164-232-11	s	CERAMIC 0.01uF 10% 100V
C8	1-126-397-11	s	ELECT, CHIP 33uF 20% 25V
C9	1-107-082-91	s	MICA 75PF 5% 50V
C10	1-107-084-91	s	MICA 91PF 5% 50V
C11	1-126-391-11	s	ELECT, CHIP 47uF 20% 6.3V
C12	1-126-393-11	s	ELECT, CHIP 33uF 20% 10V
C13	1-163-037-11	s	CERAMIC, CHIP 0.022uF 10% 25V
C14	1-163-125-00	s	CERAMIC, CHIP 220PF 5% 50V
C15	1-163-251-11	s	CERAMIC, CHIP 100PF 5% 50V
C16	1-163-038-00	s	CERAMIC, CHIP 0.1uF 25V
C17	1-163-038-00	s	CERAMIC, CHIP 0.1uF 25V
C18	1-126-402-11	s	ELECT, CHIP 2.2uF 20% 50V
C19	1-164-232-11	s	CERAMIC 0.01uF 10% 100V
C20	1-163-251-11	s	CERAMIC, CHIP 100PF 5% 50V
C21	1-163-251-11	s	CERAMIC, CHIP 100PF 5% 50V
C22	1-163-251-11	s	CERAMIC, CHIP 100PF 5% 50V
C23	1-163-251-11	s	CERAMIC, CHIP 100PF 5% 50V
C28	1-163-251-11	s	CERAMIC, CHIP 100PF 5% 50V
C29	1-163-251-11	s	CERAMIC, CHIP 100PF 5% 50V
C30	1-163-251-11	s	CERAMIC, CHIP 100PF 5% 50V
C31	1-163-251-11	s	CERAMIC, CHIP 100PF 5% 50V
C32	1-163-251-11	s	CERAMIC, CHIP 100PF 5% 50V
C33	1-163-251-11	s	CERAMIC, CHIP 100PF 5% 50V
C34	1-163-251-11	s	CERAMIC, CHIP 100PF 5% 50V
C35	1-163-251-11	s	CERAMIC, CHIP 100PF 5% 50V
C40	1-164-232-11	s	CERAMIC 0.01uF 10% 100V
C41	1-164-232-11	s	CERAMIC 0.01uF 10% 100V
C42	1-164-232-11	s	CERAMIC 0.01uF 10% 100V
C43	1-164-232-11	s	CERAMIC 0.01uF 10% 100V
C44	1-126-401-11	s	ELECT, CHIP 1uF 20% 50V
C45	1-126-401-11	s	ELECT, CHIP 1uF 20% 50V
C46	1-126-394-11	s	ELECT, CHIP 10uF 20% 16V
C47	1-126-394-11	s	ELECT, CHIP 10uF 20% 16V
C48	1-126-394-11	s	ELECT, CHIP 10uF 20% 16V
C49	1-126-394-11	s	ELECT, CHIP 10uF 20% 16V
C50	1-126-394-11	s	ELECT, CHIP 10uF 20% 16V
C51	1-164-232-11	s	CERAMIC 0.01uF 10% 100V
C52	1-164-232-11	s	CERAMIC 0.01uF 10% 100V
C53	1-164-232-11	s	CERAMIC 0.01uF 10% 100V
C54	1-164-232-11	s	CERAMIC 0.01uF 10% 100V
C55	1-164-232-11	s	CERAMIC 0.01uF 10% 100V
C56	1-164-232-11	s	CERAMIC 0.01uF 10% 100V
C58	1-164-232-11	s	CERAMIC 0.01uF 10% 100V
C59	1-164-232-11	s	CERAMIC 0.01uF 10% 100V

(IF-391 BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
C60	1-163-037-11	s	CERAMIC, CHIP 0.022uF 10% 25V
C61	1-126-401-11	s	ELECT, CHIP 1uF 20% 50V
C62	1-163-037-11	s	CERAMIC, CHIP 0.022uF 10% 25V
C63	1-126-401-11	s	ELECT, CHIP 1uF 20% 50V
C64	1-164-232-11	s	CERAMIC 0.01uF 10% 100V
C65	1-164-232-11	s	CERAMIC 0.01uF 10% 100V
C66	1-164-232-11	s	CERAMIC 0.01uF 10% 100V
C70	1-107-079-91	s	MICA 56PF 5% 50V
C71	1-107-159-00	s	MICA 33PF 5% 500V
C72	1-126-394-11	s	ELECT, CHIP 10uF 20% 16V
C73	1-163-133-00	s	CERAMIC, CHIP 470PF 5% 50V
C74	1-164-232-11	s	CERAMIC 0.01uF 10% 100V
C75	1-164-232-11	s	CERAMIC 0.01uF 10% 100V
C76	1-126-397-11	s	ELECT, CHIP 33uF 20% 25V
C77	1-126-394-11	s	ELECT, CHIP 10uF 20% 16V
C78	1-126-397-11	s	ELECT, CHIP 33uF 20% 25V
C79	1-126-394-11	s	ELECT, CHIP 10uF 20% 16V
C201	1-164-232-11	s	CERAMIC 0.01uF 10% 100V
C202	1-164-232-11	s	CERAMIC 0.01uF 10% 100V
C203	1-164-232-11	s	CERAMIC 0.01uF 10% 100V
C204	1-164-232-11	s	CERAMIC 0.01uF 10% 100V
C205	1-164-232-11	s	CERAMIC 0.01uF 10% 100V
C206	1-164-232-11	s	CERAMIC 0.01uF 10% 100V
C207	1-164-232-11	s	CERAMIC 0.01uF 10% 100V
C208	1-164-232-11	s	CERAMIC 0.01uF 10% 100V
C209	1-164-232-11	s	CERAMIC 0.01uF 10% 100V
C210	1-164-232-11	s	CERAMIC 0.01uF 10% 100V
C211	1-164-232-11	s	CERAMIC 0.01uF 10% 100V
C212	1-164-232-11	s	CERAMIC 0.01uF 10% 100V
C213	1-164-232-11	s	CERAMIC 0.01uF 10% 100V
C214	1-164-232-11	s	CERAMIC 0.01uF 10% 100V
C215	1-164-232-11	s	CERAMIC 0.01uF 10% 100V
C216	1-164-232-11	s	CERAMIC 0.01uF 10% 100V
C217	1-164-232-11	s	CERAMIC 0.01uF 10% 100V
C218	1-164-232-11	s	CERAMIC 0.01uF 10% 100V
C219	1-164-232-11	s	CERAMIC 0.01uF 10% 100V
C220	1-164-232-11	s	CERAMIC 0.01uF 10% 100V
C221	1-164-232-11	s	CERAMIC 0.01uF 10% 100V
C222	1-164-232-11	s	CERAMIC 0.01uF 10% 100V
C223	1-164-232-11	s	CERAMIC 0.01uF 10% 100V
C224	1-164-232-11	s	CERAMIC 0.01uF 10% 100V
C225	1-164-232-11	s	CERAMIC 0.01uF 10% 100V
C226	1-164-232-11	s	CERAMIC 0.01uF 10% 100V
C227	1-164-232-11	s	CERAMIC 0.01uF 10% 100V
C228	1-164-232-11	s	CERAMIC 0.01uF 10% 100V
C229	1-164-232-11	s	CERAMIC 0.01uF 10% 100V
C230	1-164-232-11	s	CERAMIC 0.01uF 10% 100V
C231	1-164-232-11	s	CERAMIC 0.01uF 10% 100V
C232	1-164-232-11	s	CERAMIC 0.01uF 10% 100V
C233	1-164-232-11	s	CERAMIC 0.01uF 10% 100V
C234	1-164-232-11	s	CERAMIC 0.01uF 10% 100V
C235	1-164-232-11	s	CERAMIC 0.01uF 10% 100V
C236	1-164-232-11	s	CERAMIC 0.01uF 10% 100V
C237	1-164-232-11	s	CERAMIC 0.01uF 10% 100V
C238	1-164-232-11	s	CERAMIC 0.01uF 10% 100V
C239	1-164-232-11	s	CERAMIC 0.01uF 10% 100V
C240	1-164-232-11	s	CERAMIC 0.01uF 10% 100V
C241	1-164-232-11	s	CERAMIC 0.01uF 10% 100V
C242	1-164-232-11	s	CERAMIC 0.01uF 10% 100V

NOTE: Please see page 5-9 for tha parts that are not listed in the parts list.

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Ref. No. or Q'ty	Part No.	SP	Description
C243	1-164-232-11	s	CERAMIC 0.01uF 10% 100V
C244	1-164-232-11	s	CERAMIC 0.01uF 10% 100V
C245	1-164-232-11	s	CERAMIC 0.01uF 10% 100V
C246	1-164-232-11	s	CERAMIC 0.01uF 10% 100V
C247	1-164-232-11	s	CERAMIC 0.01uF 10% 100V
C248	1-164-232-11	s	CERAMIC 0.01uF 10% 100V
C249	1-164-232-11	s	CERAMIC 0.01uF 10% 100V
C250	1-164-232-11	s	CERAMIC 0.01uF 10% 100V
C251	1-164-232-11	s	CERAMIC 0.01uF 10% 100V
C252	1-164-232-11	s	CERAMIC 0.01uF 10% 100V
C253	1-164-232-11	s	CERAMIC 0.01uF 10% 100V
C254	1-164-232-11	s	CERAMIC 0.01uF 10% 100V
C255	1-164-232-11	s	CERAMIC 0.01uF 10% 100V
C256	1-164-232-11	s	CERAMIC 0.01uF 10% 100V
C257	1-164-232-11	s	CERAMIC 0.01uF 10% 100V
C258	1-164-232-11	s	CERAMIC 0.01uF 10% 100V
C259	1-164-232-11	s	CERAMIC 0.01uF 10% 100V
C260	1-164-232-11	s	CERAMIC 0.01uF 10% 100V
C261	1-164-232-11	s	CERAMIC 0.01uF 10% 100V
C262	1-164-232-11	s	CERAMIC 0.01uF 10% 100V
C263	1-164-232-11	s	CERAMIC 0.01uF 10% 100V
CN100	1-506-747-11	s	CONNECTOR, DIN 64P, MALE
CN101	1-506-748-11	s	CONNECTOR, DIN 96P, MALE
CN103	1-506-473-11	s	CONNECTOR 8P, MALE
CN104	1-506-473-11	s	CONNECTOR 8P, MALE
CN105	1-506-467-11	s	CONNECTOR 2P, MALE
CNI27	1-540-069-11	s	SOCKET, IC (IC113) 84P
CNI28	1-540-069-11	s	SOCKET, IC (IC113) 84P
CNI39	1-526-659-00	o	SOCKET, IC 28P
COP3	1-562-579-21	s	PLUG, SHORTING
COP5	1-562-579-21	s	PLUG, SHORTING
COP7	1-562-579-21	s	PLUG, SHORTING
COP9	1-562-579-21	s	PLUG, SHORTING
COR3	1-564-952-21	s	PIN, DIL 16P
COR5	1-564-952-21	s	PIN, DIL 16P
COR7	1-564-952-21	s	PIN, DIL 16P
COR9	1-564-952-21	s	PIN, DIL 16P
D1	8-719-812-43	s	LED TLG124A, GRN
D2	8-719-812-44	s	LED TLO124, ORG
D3	8-719-812-43	s	LED TLG124A, GRN
D4	8-719-812-44	s	LED TLO124, ORG
D5	8-719-812-43	s	LED TLG124A, GRN
D6	8-719-812-44	s	LED TLO124, ORG
D7	8-719-911-19	s	DIODE 1SS119
D8	8-719-911-19	s	DIODE 1SS119
D9	8-719-911-19	s	DIODE 1SS119
D10	8-719-911-19	s	DIODE 1SS119
D11	8-719-911-19	s	DIODE 1SS119
D12	8-719-911-19	s	DIODE 1SS119
D13	8-719-911-19	s	DIODE 1SS119
D14	8-719-911-19	s	DIODE 1SS119
D15	8-719-911-19	s	DIODE 1SS119
IC2	8-759-927-46	s	IC SN74HC00NS
IC3	8-759-906-43	s	IC SM6430C
IC4	8-759-925-74	s	IC TC74HC04NS
IC5	8-759-927-29	s	IC SN74HCU04NS
IC6	8-759-925-90	s	IC SN74HC74NS

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Ref. No. or Q'ty	Part No.	SP	Description
IC7	8-759-925-90	s	IC SN74HC74NS
IC8	8-759-972-26	s	IC LM1881N
IC9	8-759-925-76	s	IC SN74HC08NS
IC10	8-759-926-18	s	IC SN74HC157ANS
IC11	8-759-926-18	s	IC SN74HC157ANS
IC12	8-759-926-18	s	IC SN74HC157ANS
IC13	8-759-926-76	s	IC SN74HC540NS
IC14	8-759-007-66	s	IC MC74HC147F
IC15	8-759-925-81	s	IC SN74HC20ANS
IC16	8-759-925-72	s	IC SN74HC02NS
IC17	8-759-938-68	s	IC CXD1095Q
IC18	8-795-926-80	s	IC SN74HC573BNS
IC19	8-795-926-80	s	IC SN74HC573BNS
IC20	8-759-941-17	s	IC SN74LS06NS
IC21	8-759-941-17	s	IC SN74LS06NS
IC22	8-759-941-17	s	IC SN74LS06NS
IC23	8-759-941-17	s	IC SN74LS06NS
IC24	8-759-941-17	s	IC SN74LS06NS
IC25	8-759-973-43	s	IC MB8421-90LPFQ
IC26	8-759-973-43	s	IC MB8421-90LPFQ
IC27	--PENDING---	s	IC HD647180X0CP6, PROM, BLANK
IC28	--PENDING---	s	IC HD647180X0CP6, PROM, BLANK
IC29	8-759-925-76	s	IC SN74HC08NS
IC30	8-759-925-74	s	IC TC74HC04NS
IC31	8-759-926-12	s	IC SN74HC139NS
IC32	8-759-923-64	s	IC AM26LS32ACNS
IC33	8-759-923-65	s	IC AM26LS31CNS
IC34	8-759-925-76	s	IC SN74HC08NS
IC35	8-759-925-76	s	IC SN74HC08NS
IC36	8-759-973-43	s	IC MB8421-90LPFQ
IC37	8-759-323-67	s	IC HD641180XF6
IC38	8-759-926-11	s	IC SN74HC138NS
IC39	--PENDING---	s	IC TMS27C256-20JL, EPROM, BLANK
IC40	8-752-331-00	s	IC CXK5864BM-12L
IC41	8-759-926-11	s	IC SN74HC138NS
IC42	8-759-065-85	s	IC MAX232CPE
IC43	8-759-995-64	s	IC MB86023
IC44	8-759-995-64	s	IC MB86023
IC45	8-759-908-92	s	IC TL084CNS
IC46	8-759-908-92	s	IC TL084CNS
IC47	8-759-908-92	s	IC TL084CNS
IC48	8-759-908-92	s	IC TL084CNS
IC49	8-759-923-64	s	IC AM26LS32ACNS
IC50	8-759-923-65	s	IC AM26LS31CNS
IC51	8-759-925-74	s	IC TC74HC04NS
IC52	8-759-926-56	s	IC SN74HC273NS
IC53	8-759-941-17	s	IC SN74LS06NS
IC54	8-759-700-65	s	IC NJM79L05A
IC55	8-759-925-74	s	IC TC74HC04NS
IC56	8-759-926-77	s	IC SN74HC541NS
IC58	8-759-925-85	s	IC SN74HC32NS
IC59	8-759-925-90	s	IC SN74HC74NS
IC60	8-759-239-23	s	IC TC74HC86AF
IC61	8-759-982-25	s	IC RC78L09A
IC62	8-759-700-68	s	IC NJM79L09A
IC65	8-759-009-10	s	IC MC14069UBF
PS1	⚠1-532-686-00	s	LINK, IC 2.7A
PS2	⚠1-532-675-00	s	LINK, IC 1.5A

NOTE: Please see page 5-9 for tha parts that are not listed in the parts list.

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Ref. No. or Q'ty	Part No.	SP	Description
C208	1-164-232-11	s	CERAMIC 0.01uF 10% 100V
C209	1-164-232-11	s	CERAMIC 0.01uF 10% 100V
C210	1-164-232-11	s	CERAMIC 0.01uF 10% 100V
C211	1-164-232-11	s	CERAMIC 0.01uF 10% 100V
C212	1-164-232-11	s	CERAMIC 0.01uF 10% 100V
C220	1-164-232-11	s	CERAMIC 0.01uF 10% 100V
C222	1-164-232-11	s	CERAMIC 0.01uF 10% 100V
C223	1-164-232-11	s	CERAMIC 0.01uF 10% 100V
C224	1-164-232-11	s	CERAMIC 0.01uF 10% 100V
C225	1-164-232-11	s	CERAMIC 0.01uF 10% 100V
C226	1-164-232-11	s	CERAMIC 0.01uF 10% 100V
C227	1-164-232-11	s	CERAMIC 0.01uF 10% 100V
C228	1-164-232-11	s	CERAMIC 0.01uF 10% 100V
C229	1-164-232-11	s	CERAMIC 0.01uF 10% 100V
C300	1-164-232-11	s	CERAMIC 0.01uF 10% 100V
C301	1-164-232-11	s	CERAMIC 0.01uF 10% 100V
C302	1-164-232-11	s	CERAMIC 0.01uF 10% 100V
C303	1-164-232-11	s	CERAMIC 0.01uF 10% 100V
C304	1-164-232-11	s	CERAMIC 0.01uF 10% 100V
C305	1-164-232-11	s	CERAMIC 0.01uF 10% 100V
C307	1-126-394-11	s	ELECT, CHIP 10uF 20% 16V
C308	1-126-394-11	s	ELECT, CHIP 10uF 20% 16V
C309	1-126-394-11	s	ELECT, CHIP 10uF 20% 16V
C314	1-163-017-00	s	CERAMIC, CHIP 0.0047uF 5% 50V
C315	1-163-017-00	s	CERAMIC, CHIP 0.0047uF 5% 50V
C316	1-126-394-11	s	ELECT, CHIP 10uF 20% 16V
C317	1-126-394-11	s	ELECT, CHIP 10uF 20% 16V
C320	1-126-394-11	s	ELECT, CHIP 10uF 20% 16V
C402	1-164-232-11	s	CERAMIC 0.01uF 10% 100V
C404	1-164-232-11	s	CERAMIC 0.01uF 10% 100V
C408	1-164-232-11	s	CERAMIC 0.01uF 10% 100V
C411	1-164-232-11	s	CERAMIC 0.01uF 10% 100V
C412	1-164-232-11	s	CERAMIC 0.01uF 10% 100V
C413	1-164-232-11	s	CERAMIC 0.01uF 10% 100V
C414	1-164-232-11	s	CERAMIC 0.01uF 10% 100V
C415	1-164-232-11	s	CERAMIC 0.01uF 10% 100V
CN100	1-506-747-11	s	CONNECTOR, DIN 64P, MALE
CN101	1-506-747-11	s	CONNECTOR, DIN 64P, MALE
CNI1	1-526-862-21	o	SOCKET, IC 64P
CNI9	1-526-662-21	o	SOCKET, IC (DP) 40P
CNI10	1-526-662-21	o	SOCKET, IC (DP) 40P
CNI121	1-526-659-00	o	SOCKET, IC 28P
CNI204	1-526-662-21	o	SOCKET, IC (DP) 40P
CNI205	1-526-662-21	o	SOCKET, IC (DP) 40P
COR1	1-564-952-21	s	PIN, DIL 16P
D1	8-719-982-04	s	DIODE ERB81-004
D2	8-719-911-19	s	DIODE 1SS119
D3	8-719-982-04	s	DIODE ERB81-004
D4	8-719-982-04	s	DIODE ERB81-004
D12	8-719-911-19	s	DIODE 1SS119
D13	8-719-911-19	s	DIODE 1SS119
D14	8-719-911-19	s	DIODE 1SS119
D310	8-719-123-78	s	DIODE 1SS97-2
D311	8-719-123-78	s	DIODE 1SS97-2
D312	8-719-123-78	s	DIODE 1SS97-2
D313	8-719-123-78	s	DIODE 1SS97-2

NOTE: Please see page 5-9 for tha parts that are not listed in the parts list.

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Ref. No. or Q'ty	Part No.	SP	Description
IC1	8-759-242-61	s	IC TMP68301F
IC2	8-759-323-02	s	IC HM628128LFP-10
IC3	8-759-323-02	s	IC HM628128LFP-10
IC4	8-759-323-02	s	IC HM628128LFP-10
IC5	8-759-323-02	s	IC HM628128LFP-10
IC9	--PENDING---	s	IC M27C4002-12F1, EPROM, BLANK
IC10	--PENDING---	s	IC M27C4002-12F1, EPROM, BLANK
IC13	8-759-073-39	s	IC X2816CP-20
IC14	8-759-926-24	s	IC SN74HC164NS
IC15	8-759-934-27	s	IC SN74ALS138NS
IC16	8-759-925-76	s	IC SN74HC08NS
IC17	8-759-926-49	s	IC SN74HC245NS
IC18	8-759-926-49	s	IC SN74HC245NS
IC19	8-759-926-77	s	IC SN74HC541NS
IC20	8-759-926-77	s	IC SN74HC541NS
IC21	8-759-926-77	s	IC SN74HC541NS
IC22	8-759-926-11	s	IC SN74HC138NS
IC23	8-759-934-27	s	IC SN74ALS138NS
IC24	8-759-995-76	s	IC PST529C
IC25	8-759-971-15	s	IC PST529H
IC26	8-759-987-92	s	IC SN74ALS10ANS
IC27	8-759-987-92	s	IC SN74ALS10ANS
IC28	8-759-934-11	s	IC SN74ALS32NS
IC29	8-759-925-85	s	IC SN74HC32NS
IC30	8-759-927-46	s	IC SN74HC00NS
IC31	8-759-925-76	s	IC SN74HC08NS
IC32	8-759-933-98	s	IC SN74ALS08NS
IC33	8-759-933-92	s	IC SN74ALS00ANS
IC34	8-759-925-75	s	IC SN74HC05NS
IC35	8-759-946-65	s	IC SN74ALS04BNS
IC36	8-759-927-00	s	IC SN74HC4078ANS
IC37	8-759-925-74	s	IC TC74HC04NS
IC38	8-759-925-74	s	IC TC74HC04NS
IC39	8-759-926-64	s	IC SN74HC367ANS
IC40	8-795-926-80	s	IC SN74HC573BNS
IC41	8-795-926-80	s	IC SN74HC573BNS
IC42	8-759-926-64	s	IC SN74HC367ANS
IC43	8-759-926-24	s	IC SN74HC164NS
IC44	8-759-145-92	s	IC UPD71071GC-3B6
IC45	8-759-321-82	s	IC HD63265FP
IC46	8-759-149-09	s	IC UPD71059GB-10-3B4
IC47	8-759-149-07	s	IC UPD71054GB-10-3B4
IC48	8-759-149-07	s	IC UPD71054GB-10-3B4
IC49	8-759-926-49	s	IC SN74HC245NS
IC50	8-759-926-49	s	IC SN74HC245NS
IC51	8-759-926-82	s	IC SN74HC574ANS
IC52	8-759-926-77	s	IC SN74HC541NS
IC53	8-759-927-17	s	IC SN74HCT540NS
IC54	8-759-926-12	s	IC SN74HC139NS
IC55	8-759-926-11	s	IC SN74HC138NS
IC56	8-759-926-11	s	IC SN74HC138NS
IC58	8-759-926-24	s	IC SN74HC164NS
IC59	8-759-978-04	s	IC RF5C15
IC60	8-759-941-17	s	IC SN74LS06NS
IC61	8-759-941-17	s	IC SN74LS06NS
IC62	8-759-925-74	s	IC TC74HC04NS
IC63	8-759-925-74	s	IC TC74HC04NS
IC64	8-759-925-74	s	IC TC74HC04NS

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Ref. No. or Q'ty	Part No.	SP	Description
IC65	8-759-925-74	s	IC TC74HC04NS
IC66	8-759-925-78	s	IC SN74HC10NS
IC67	8-759-925-85	s	IC SN74HC32NS
IC68	8-759-925-85	s	IC SN74HC32NS
IC69	8-759-925-76	s	IC SN74HC08NS
IC70	8-759-925-76	s	IC SN74HC08NS
IC71	8-759-925-72	s	IC SN74HC02NS
IC72	8-759-927-46	s	IC SN74HC00NS
IC73	8-759-925-90	s	IC SN74HC74NS
IC75	8-759-065-85	s	IC MAX232CPE
IC77	8-759-926-77	s	IC SN74HC541NS
IC78	8-759-926-37	s	IC SN74HC193NS
IC83	8-759-980-27	s	IC SN74ALS163BNS
IC89	8-759-926-29	s	IC SN74HC175NS
IC92	8-759-925-90	s	IC SN74HC74NS
IC93	8-759-933-98	s	IC SN74ALS08NS
IC97	8-759-925-80	s	IC SN74HC14NS
IC99	8-759-925-85	s	IC SN74HC32NS
IC100	8-759-926-99	s	IC SN74HC4075NS
IC101	8-759-927-29	s	IC SN74HCU04NS
IC102	8-759-925-74	s	IC TC74HC04NS
IC103	8-759-520-59	s	IC MB89322APFQ
IC104	8-759-926-74	s	IC SN74HC393NS
IC105	8-759-939-92	s	IC SN74ALS541NS
IC106	8-759-939-92	s	IC SN74ALS541NS
IC107	8-759-244-85	s	IC TC74AC574F
IC108	8-759-244-85	s	IC TC74AC574F
IC109	8-759-244-85	s	IC TC74AC574F
IC110	8-759-244-85	s	IC TC74AC574F
IC111	8-759-244-85	s	IC TC74AC574F
IC112	8-759-244-85	s	IC TC74AC574F
IC113	8-752-331-00	s	IC CXK5864BM-12L
IC114	8-752-331-00	s	IC CXK5864BM-12L
IC115	8-752-331-00	s	IC CXK5864BM-12L
IC116	8-752-331-00	s	IC CXK5864BM-12L
IC117	8-759-985-36	s	IC 74AC157SJ
IC118	8-759-985-36	s	IC 74AC157SJ
IC119	8-759-985-36	s	IC 74AC157SJ
IC120	8-759-926-26	s	IC SN74HC166NS
IC121	8-759-748-97	s	IC TMS27C512-15JL
IC122	8-759-925-76	s	IC SN74HC08NS
IC123	8-759-925-85	s	IC SN74HC32NS
IC124	8-759-927-02	s	IC SN74HC7266NS
IC125	8-759-925-74	s	IC TC74HC04NS
IC126	8-759-925-90	s	IC SN74HC74NS
IC127	8-759-925-90	s	IC SN74HC74NS
IC128	8-759-925-78	s	IC SN74HC10NS
IC129	8-759-925-76	s	IC SN74HC08NS
IC200	8-759-323-02	s	IC HM628128LFP-10
IC201	8-759-323-02	s	IC HM628128LFP-10
IC202	8-759-323-02	s	IC HM628128LFP-10
IC203	8-759-323-02	s	IC HM628128LFP-10
IC302	8-759-925-78	s	IC SN74HC10NS
IC304	8-759-926-77	s	IC SN74HC541NS
IC308	8-759-009-03	s	IC MC14049UBF
IC309	8-759-065-85	s	IC MAX232CPE
IC311	8-759-923-64	s	IC AM26LS32ACNS
IC312	8-759-923-65	s	IC AM26LS31CNS
IC313	8-759-925-79	s	IC SN74HC11ANS

NOTE: Please see page 5-9 for tha parts that are not listed in the parts list.

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Ref. No. or Q'ty	Part No.	SP	Description
IC314	8-759-925-79	s	IC SN74HC11ANS
IC315	8-759-925-81	s	IC SN74HC20ANS
L1	1-408-425-00	s	INDUCTOR 220uH
PS1	⚠1-532-686-00	s	LINK, IC 2.7A
Q3	8-729-119-79	s	TRANSISTOR 2SC2785-FEK
R18	1-216-611-11	s	METAL, CHIP 22 0.5% 1/10W
R19	1-216-643-11	s	METAL, CHIP 470 0.5% 1/10W
R21	1-216-643-11	s	METAL, CHIP 470 0.5% 1/10W
R22	1-216-657-11	s	METAL, CHIP 1.8K 0.5% 1/10W
R23	1-216-699-11	s	METAL, CHIP 100K 0.5% 1/10W
R27	1-216-699-11	s	METAL, CHIP 100K 0.5% 1/10W
R28	1-216-699-11	s	METAL, CHIP 100K 0.5% 1/10W
R36	1-216-691-11	s	METAL, CHIP 47K 0.5% 1/10W
R46	1-218-776-11	s	METAL, CHIP 1M 0.5% 1/10W
R47	1-216-635-11	s	METAL, CHIP 220 0.5% 1/10W
R67	1-216-635-11	s	METAL, CHIP 220 0.5% 1/10W
R68	1-216-628-11	s	METAL, CHIP 110 0.5% 1/10W
R69	1-216-628-11	s	METAL, CHIP 110 0.5% 1/10W
R315	1-216-643-11	s	METAL, CHIP 470 0.5% 1/10W
R316	1-216-643-11	s	METAL, CHIP 470 0.5% 1/10W
R317	1-216-643-11	s	METAL, CHIP 470 0.5% 1/10W
R318	1-216-643-11	s	METAL, CHIP 470 0.5% 1/10W
R322	1-216-691-11	s	METAL, CHIP 47K 0.5% 1/10W
RB1	1-231-385-00	s	RESISTOR BLOCK 4.7Kx8
RB2	1-231-385-00	s	RESISTOR BLOCK 4.7Kx8
RB3	1-231-385-00	s	RESISTOR BLOCK 4.7Kx8
RB4	1-231-385-00	s	RESISTOR BLOCK 4.7Kx8
RB5	1-231-385-00	s	RESISTOR BLOCK 4.7Kx8
RB6	1-231-385-00	s	RESISTOR BLOCK 4.7Kx8
RB7	1-231-385-00	s	RESISTOR BLOCK 4.7Kx8
RB8	1-231-385-00	s	RESISTOR BLOCK 4.7Kx8
RB9	1-231-385-00	s	RESISTOR BLOCK 4.7Kx8
RB10	1-231-405-00	s	RESISTOR BLOCK 1Kx8
RB11	1-231-410-00	s	RESISTOR BLOCK 10Kx8
RB12	1-231-385-00	s	RESISTOR BLOCK 4.7Kx8
RB13	1-231-385-00	s	RESISTOR BLOCK 4.7Kx8
RB14	1-231-385-00	s	RESISTOR BLOCK 4.7Kx8
S2	1-570-472-11	s	SWITCH, KEYBOARD
S4	1-571-967-11	s	SWITCH, DIP 8-CKT
S5	1-570-598-11	s	SWITCH, DIP 4-CKT
X1	1-579-115-11	s	OSC, CRYSTAL 24.000MHz
X2	1-577-382-11	s	VCO, CRYSTAL 16.000MHz
X4	1-567-866-11	s	CRYSTAL, 14.31818MHz
X5	1-567-098-00	s	CRYSTAL 32.76800MHz

FRAME

Ref. No. or Q'ty	Part No.	SP	Description
1pc	⚠1-413-647-11	s	REGULATOR, SWITCHING
1pc	⚠1-532-827-11	s	FUSE (MT4-3A-N1)
1pc	1-951-204-12	o	HARNESS, SUB (FDCC) (CN2/MB-454 board to CN101/3.5 FDD)
1pc	1-951-235-11	o	HARNESS, SUB (KYFLAT) (CN1/KY-236 board to CN2/CPU-132 board)

HARNESS AC IN (For BVE-2000):

(INLET 3P to AC SW)

1pc	⚠1-526-813-31	s	INLET, AC 3P, MALE
1pc	⚠1-570-117-41	s	SWITCH, ROCKER (AC POWER)
1pc	4-378-344-01	o	COVER, SWITCH
1pc	4-601-466-11	o	COVER, 3P INLET

(INLET 3P to WIRE GROUND)

1pc	⚠1-526-813-31	s	INLET, AC 3P, MALE
1pc	4-601-466-11	o	COVER, 3P INLET

(AC SW to CP1/SW REG)

CP1F	⚠1-750-171-11	o	HOUSING 2P
1pc	⚠1-569-595-11	o	CONTACT, MALE AWG18-24
1pc	⚠1-570-117-41	s	SWITCH, ROCKER (AC POWER)
1pc	4-378-344-01	o	COVER, SWITCH

HARNESS DC OUT (For BVE-2000):

(CN3/MB-454 board CP51/SW REG)

CN3F	1-561-516-00	o	HOUSING, ILG 4P
1pc	1-560-372-00	o	CONTACT, ILG, FEMALE AWG22-28
CP51F	1-535-243-21	o	CONTACT, FEMALE AWG22-28

(CN4/MB-454 board CP52/SW REG)

CN4F	1-561-516-00	o	HOUSING, ILG 4P
1pcb	1-560-372-00	o	CONTACT, ILG, FEMALE AWG22-28
CP52F	1-535-243-21	o	CONTACT, FEMALE AWG22-28

(CN5/MB-454 board CP53/SW REG)

CN5F	1-561-516-00	o	HOUSING, ILG 4P
1pc	1-560-372-00	o	CONTACT, ILG, FEMALE AWG22-28
CP53F	1-535-243-21	o	CONTACT, FEMALE AWG22-28

HARNESS FDC DC (For BVE-2000):

(CN1/SY-184 board to CN103/3.5 FDD UNIT)

CN1F	1-535-243-21	o	CONTACT, FEMALE AWG22-28
CN103F	1-560-066-00	o	CONNECTOR 10P, MALE

HARNESS LED DC (For BVE-2000):

(CN6F/SY-184 board to CN1/LE-55 board)

CN6F	1-569-196-31	o	HOUSING 3P
1pc	1-569-193-11	o	CONTACT, FEMALE
CN1F	1-569-196-31	o	HOUSING 3P
1pc	1-569-193-11	o	CONTACT, FEMALE

HARNESS BNC REF (For BVE-2000 J only)

(CN7/MB-454 board to CN105/IF-391 board)

CN7F	1-569-195-11	o	HOUSING, 2P
1pc	1-569-193-11	o	CONTACT, FEMALE

(FRAME)

Ref. No. or Q'ty	Part No.	SP	Description
CN105F	1-569-195-11	o	HOUSING, 2P
1pc	1-569-193-11	o	CONTACT, FEMALE

HARNESS DIALC (for BKE-2010):

(CN1/DET-11 board to CN3/CPU-132 board)

CN1F	1-569-201-11	o	HOUSING, CONNECTOR 8P
1pc	1-569-193-11	o	CONTACT, FEMALE
CN3F	1-569-201-11	o	HOUSING, CONNECTOR 8P
1pc	1-569-193-11	o	CONTACT, FEMALE

HARNESS KYG1 (For BKE-2010):
HARNESS KYG2 (For BKE-2010):

(CPU-132 board to Frame Ground)

Unstock Parts.

HARNESS CFIF1 (For BKE-2030/2031 and BVE-2000):
*This harness is supplied to BKE-2030/2031.

(CN103/IF-391 board to CN103/CF-46 board)

(CN103/IF-391 board to CN103/CF-47 board)

CN103F	1-569-201-11	o	HOUSING, CONNECTOR 8P
1pc	1-569-193-21	o	CONTACT, MALE AWG24-30

HARNESS CFIF2 (For BKE-2030/2031 and BVE-2000):
*This harness is supplied to BKE-2030/20311.

(CN104/IF-391 board to CN104/CF-46 board)

(CN104/IF-391 board to CN104/CF-47 board)

CN104F	1-569-201-11	o	HOUSING, CONNECTOR 8P
1pc	1-569-193-21	o	CONTACT, MALE AWG24-30

NOTE: Please see page 5-9 for tha parts that are not listed in the parts list.

5-4. OPTIONAL FIXTURES

PACKING MATERIALS & SUPPLIED ACCESSORIES

Ref. No. or Q'ty	Part No.	SP	Description
BVE-2000(J)			
1pc	1-534-754-00	s	CORD POWER, 2P
1pc	1-564-747-11	o	CONNECTOR, D-SUB 25P, MALE
1pc	2-990-242-01	s	HOLDER (B), PLUG
3pcs	3-701-634-00	o	BAG, POLYETHYLENE
BVE-2000(UC)			
1pc	1-557-377-11	s	CORD, POWER
1pc	1-564-747-11	o	CONNECTOR, D-SUB 25P, MALE
1pc	2-990-242-01	s	HOLDER (B), PLUG
4pcs	3-701-634-00	o	BAG, POLYETHYLENE
BVE-2000(EK)			
1pc	1-564-747-11	o	CONNECTOR, D-SUB 25P, MALE
1pc	1-590-910-11	s	CORD, POWER 3P
1pc	3-170-078-01	o	HOLDER (B), PLUG
5pcs	3-701-634-00	o	BAG, POLYETHYLENE
BKE-2010			
1pc	1-559-650-11	s	CABLE, D-SUB 15P 10m
2pcs	3-701-634-00	o	BAG, POLYETHYLENE
1pc	3-701-639-00	o	BAG, POLYETHYLENE
BKE-2020			
1pc	3-701-629-00	o	BAG, POLYETHYLENE
BKE-2030/2031			
4pcs	7-682-545-04	s	SCREW +B 3X4

OPTIONAL FIXTURES

J-6035-070-A o PLCC IC EXTRACTION TOOL
J-6187-390-A o EXTENSION BOARD EX-383

NOTE: Please see page 5-9 for tha parts that are not listed in the parts list.